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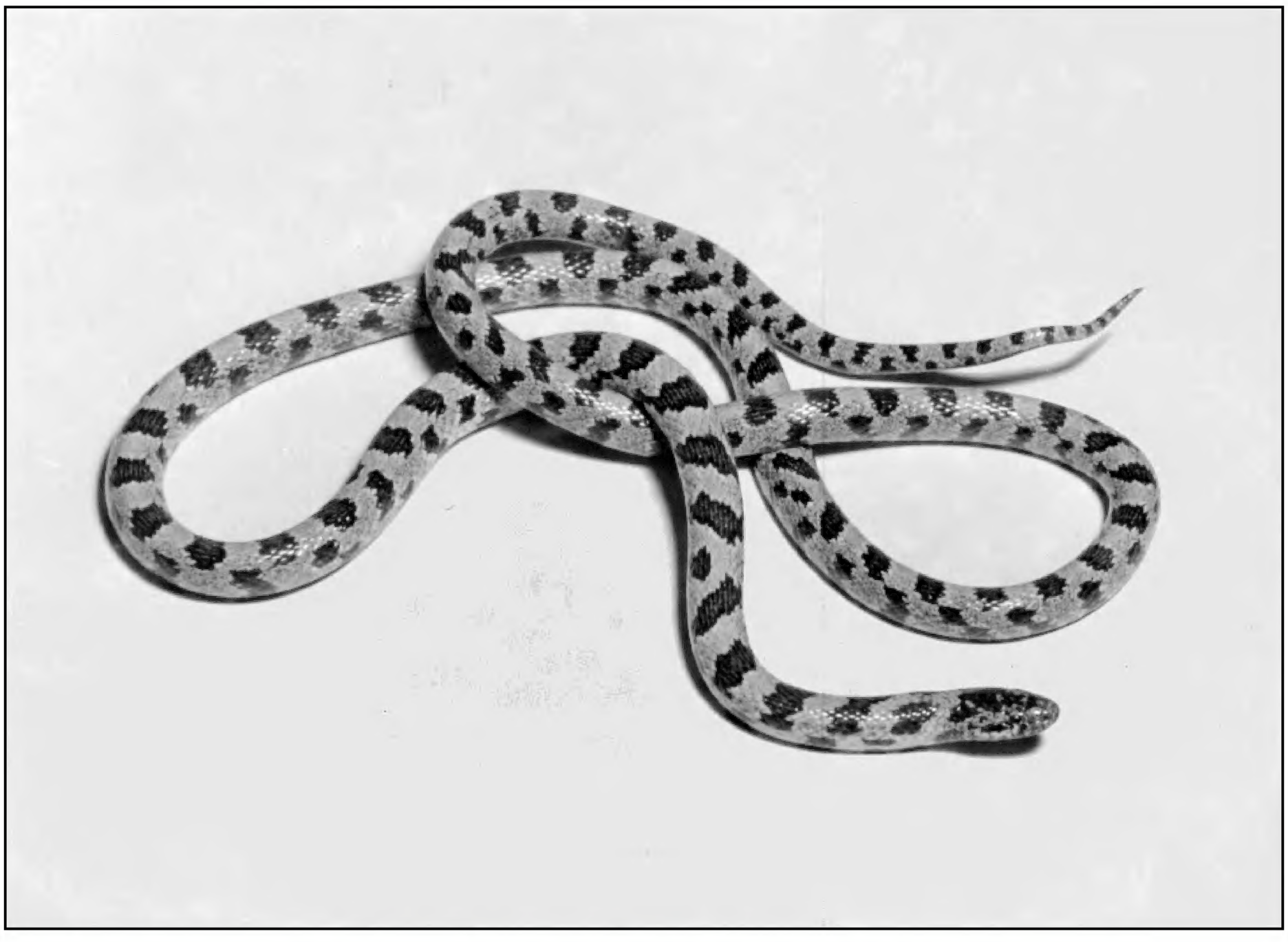

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Herp Collecting in Florida in 1930

Roger Conant
Department of Biology
University of New Mexico
Mailing Address: 6900 Las Animas NE
Albuquerque, NM 87110

A little more than seventy years ago two enthusiastic youths living in Toledo, Ohio, ventured south to Florida bent on snake hunting. I, curator of reptiles at the Toledo Zoo, was one. The other, Reeve M. Bailey, later became a distinguished ichthyologist. I was 21 and Reeve two years younger. We both were interested in wildlife in general, but snakes for the zoo were our prime objective.

We left home on June 7, 1930, with slender resources. The stock market crash of the previous autumn had plunged us into the depths of the Great Depression. Percy C. Jones, President of the Toledo Zoological Society, staked us for our estimated food and gasoline expenses for a 15-day trip. We expected to camp out or sleep in the car most of the time. We'd do our own laundry. Fortunately, food prices were low.

Our vehicle would be a prime museum piece today. It was a Willys-Knight 64, built in Toledo, and was donated to the zoo by a car dealer who, no doubt, took a tax write-off for his contribution. It strongly resembled what might be called "your grandfather's horse-drawn brougham," except that we drivers sat inside instead of outside with a horse. It was ridiculously high, a top-heavy car already old but still operable. Reeve and I discovered that its maximum speed on the level was 45 mph. We also learned it was a cantankerous piece of machinery.

As we took off on our great adventure, we gave little thought to the car. We were young and enthusiastic, confident that all would go well. It didn't.

Our long drive southward was slow and tedious, but we were in Chatanooga, Tennessee, on the second night. The next morning, a Sunday, we passed through suburban Rossville, Georgia, and unexpectedly came a cropper. Reeve was driving, cars ahead in both lanes pulled out of line, and an accident seemed imminent. To save us he made a left turn into a narrow dirt road, braked to take the sharp curve, and our top-heavy vehicle started to fall on its right side. Luckily, a stout telephone pole prevented us from going over. When we stepped out to inspect the damage, we saw that our superstructure was badly askew, listing to port, to use a nautical term. How ironic. Our low-slung modern cars would have made the left turn with ease.

We inexperienced youths, shaken by what could have been a disaster, wondered what to do. Presently a tow truck appeared, lifted our front end, and hauled us to a primitive auto repair shop operating in an old barn. They put our Willys-Knight between two stout upright beams, and, by using jacks, soon had the body approximately where it belonged. Then they discovered there was something wrong with our right front wheel, which they removed and disassembled. They dispatched a lad to the nearest junkyard to find a similar wheel from which to cannibalize necessary parts.

By evening all was finished and we started south again, minus a lot of our cash. Reeve wired home for money, which Percy Jones eventually reimbursed. We didn't drive far. We were tired and still shaken, so we pulled off the paved road alongside a fallow field and slept on the ground for the night.

The next morning we resumed our journey southward toward Atlanta. I was at the wheel, the driving seemed a little stiff, but the motor, at least, sounded just as it had previously. After we had gone 30 miles or so, a roadster with two pretty girls in it passed us. We were young and handsome in those long-ago days. (Reeve has retained his good looks.) Maybe that was why the girl who wasn't driving looked back at us. A moment later she waved her hand rapidly, and her companion slowed the roadster to a stop. I pulled up behind them, got out, and asked, "What's the matter?" The answer came in a really sweet southern drawl, "Ya-alls' front wheel's a wobblin' back and fawth."

The girls let me stand on their running board, and we pulled ahead as Reeve slowly drove our old wreck of a car behind us. I could see the right front wheel and it surely was "wobblin'."

We thanked the girls profusely, and, after they drove on, Reeve and I consulted about what to do. We quickly decided to seek help in Atlanta. Neither of us was a mechanic and, besides, we had no tools except those necessary to change a wheel if a flat tire developed. It did about 20 miles down the road, which we had driven at reduced speed. The tire not only was flat, but worn down to the inner tube. We put on the spare and before it, too, was badly damaged, we were able to pull into Atlanta's Willys-Knight agency. A chain hoist quickly lifted our front end, and the mechanic, who had heard our sad story, took the front wheel apart and then exclaimed, "Somebody's fixin' to kill somebody."

When we asked what was wrong he responded with, "They've got the bearings on the spindle upside down!"

We were fixed in a jiffy, and the professional mechanic's boss took pity on us. He didn't charge us anything, and even gave us an old tire and tube, and had the tube inflated and the tire mounted on the rim of our wheel. We had a spare again.

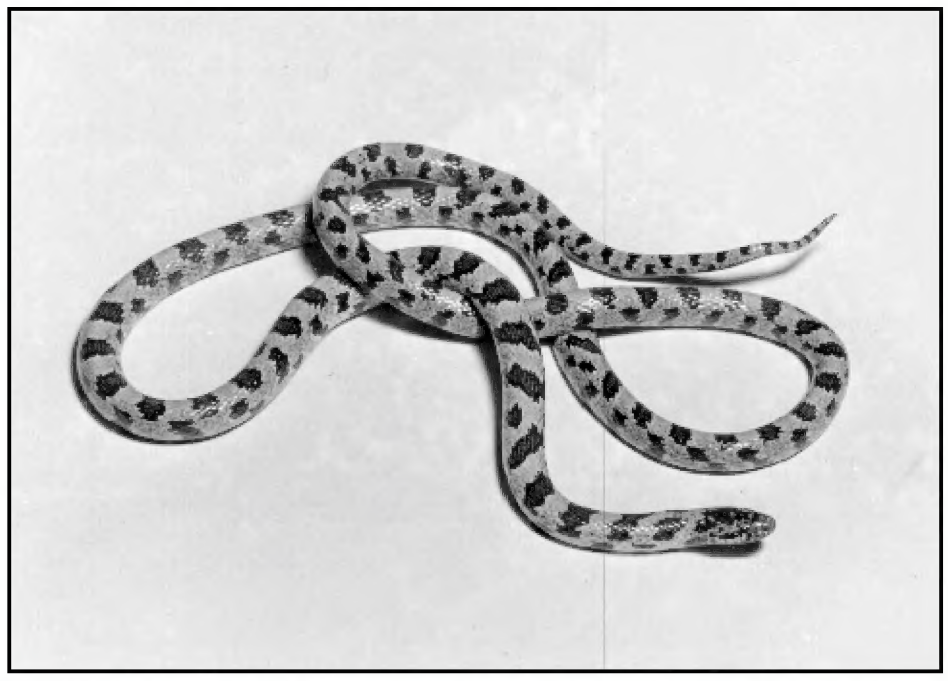
Encouraged by his kind treatment we asked him why it was so difficult to start the motor at times. He lifted the hood and pointed to a vertical cylindrical object that I think he called a vacuum tank. He told us to screw off the cap, pour in a little gasoline, and replace the top. The very next time we stopped at a service station we acquired a small container filled with gas. That advice was to stand us in good stead.

But enough of automotive troubles. We were after snakes, and we would soon be in a beautiful wilderness that teemed with semiaquatic reptiles.

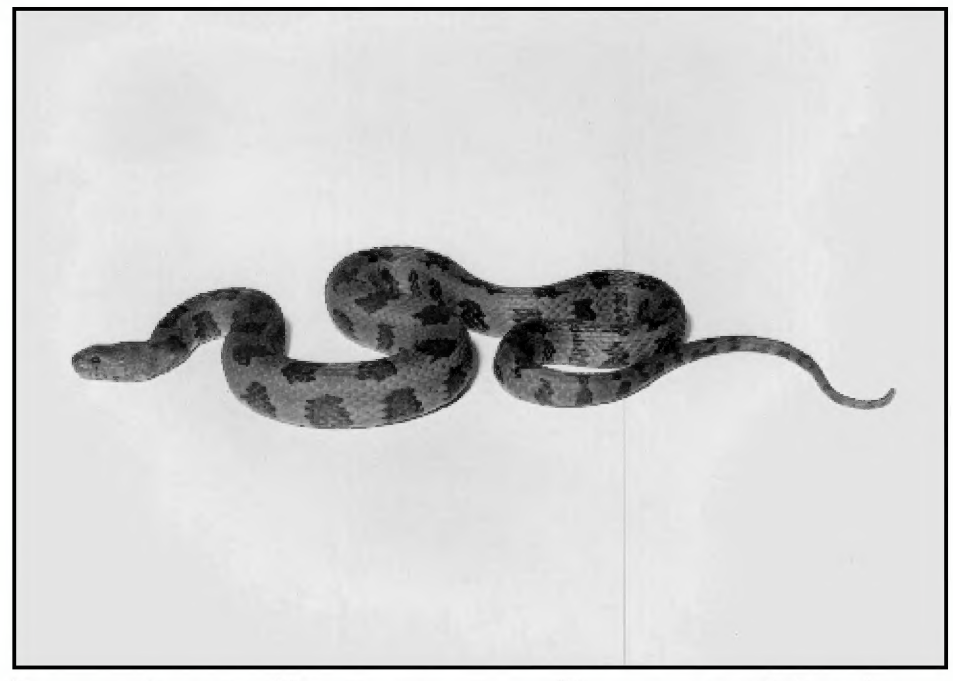
Illustrations: Only two of the photographs, both by Roger Conant, are from our trip of so long ago, and they were taken with a bulky, awkward Graflex camera. The one of the gopher tortoise burrow was easily obtained, but the snapshot of the frigate bird was almost pure luck. Our time was too short for much photography and my skill was so badly lacking that I have chosen photographs of snakes from along or near our route that were taken many years later by my late wife, Isabelle Hunt Conant.

Entrance to a gopher tortoise burrow, a common sight in Florida in 1930. We wondered even then how many commensal snakes, lizards, anurans, and other animals were sheltered within each burrow.

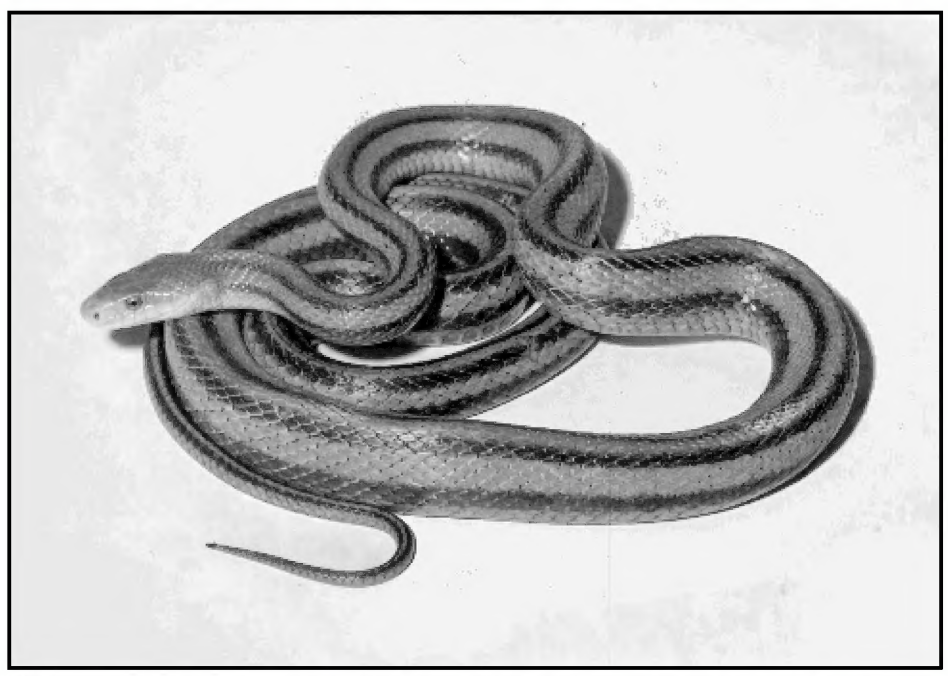
A frigate bird sailed over Bird Key where we found so many pelicans and heron-like birds nesting.



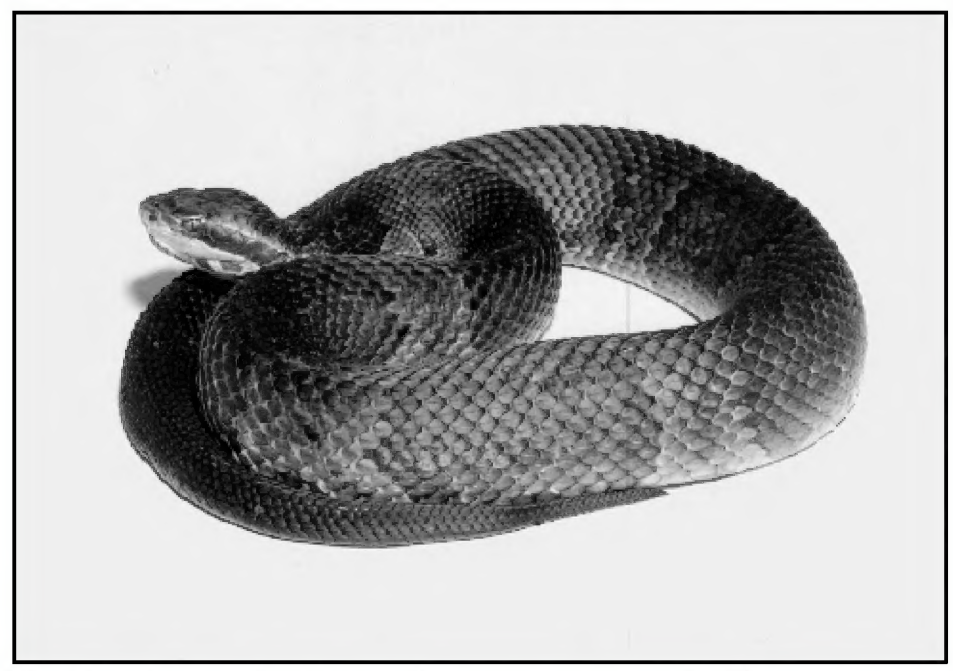
Short-tailed snake, *Stilosoma extenuatum*. C. C. Tyler's preserved specimen was the first of its kind I ever saw.



Brown watersnake, *Nerodia taxispilota*. We were astounded by the abundance of this large serpent in the Oklawaha River.



Yellow ratsnake, *Elaphe obsoleta quadrivittata*. The first snake we found in numbers.



Florida cottonmouth, *Agkistrodon piscivorus conanti*. This venomous snake varies in intensity of coloration. The big one we caught at dusk near Seminole was not nearly as dark as the one portrayed.

Our first stop in Florida was at the small settlement of Eureka, and there we met C. C. Tyler, with whom I had corresponded. He was supplementing his income by selling snakes to zoos, circuses, and sideshows. Because the Toledo Zoo was already a customer he provided us with two glorious days of snake hunting. On the first day he drove us to the equally tiny town of Moss Bluff. We made many stops and excursions on primitive side roads to explore. While making the round trip from Eureka and back, we acquired four yellow rat snakes, an indigo snake, a scarlet snake, a southern black racer, and lizards of four genera.

The second day was so exciting and experienced in such a superb setting that neither Reeve nor I will ever forget it. When we met Tyler early the next morning his pickup truck had a trailer attached to it bearing a rowboat. He drove us to a landing near where Silver Springs Run flows into the Oklawaha River. We helped him unload the boat. A friend of Tyler's would drive his rig back to another landing near Eureka, where it would be waiting for us in late afternoon. Yes, we were to float downstream along a truly wilderness river so superb and pristine that it deserved the highest praise.

Our host manned the oars and skillfully maneuvered the boat so that either Reeve or I in the bow could grasp basking water snakes. I caught the first one, a brown water snake almost four feet long and full of fight. It was well that I was wearing heavy leather gloves, because it bit repeatedly until I could grasp it by the neck.

During our trip we saw what seemed like a hundred of the same species and several Florida water snakes, but only three cottonmouths, one of which we caught by using tongs. In comparison with the water snakes, the cottonmouths were sluggish and moved much more slowly. While we were catching a water snake a rough green snake fell into the boat from vegetation above the stream. Unluckily, it had been stepped on and killed before we found it. We caught another live one a little later. We took only as many snakes as I thought we could use at the zoo, plus a few others for trading.

What fun we had that day just watching the wildlife. We saw several alligators of small to medium size and a great many turtles, some basking on trees or brush that had fallen into the river. There were a great many birds, mostly of species we had never seen before and many we couldn't identify. That was before Roger Tory Peterson's "Field Guide to the Birds" was published.

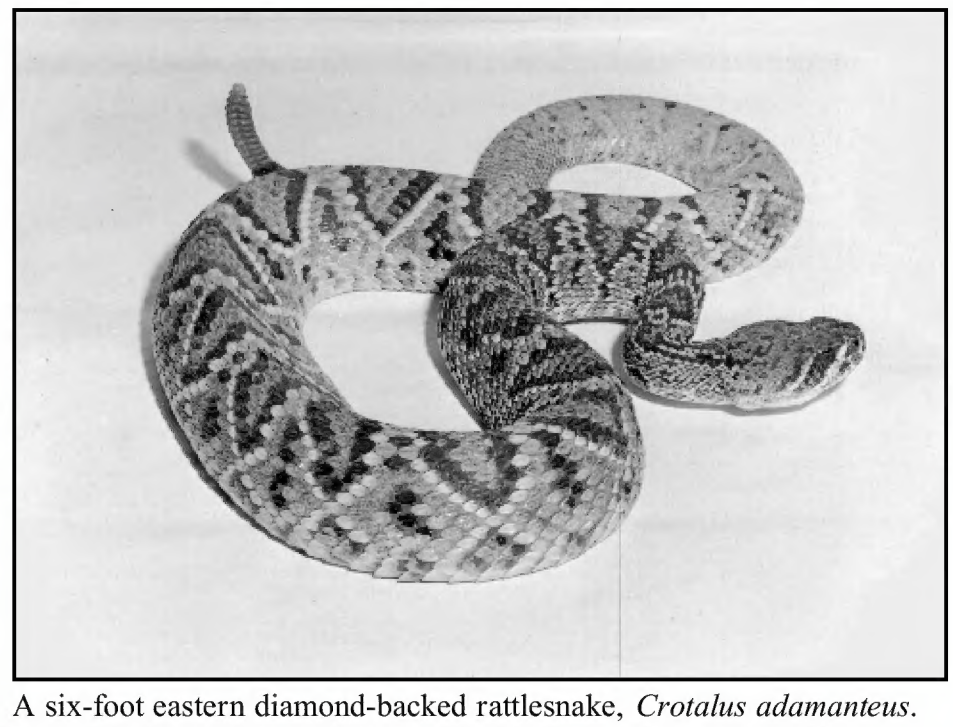
We were in a real wilderness and, except for a long-abandoned dock at the water's edge, we saw absolutely nothing of the works of humankind. The water was crystal clear and we drank right from the stream when we lunched on sandwiches. Reeve and I both stripped and went swimming as our boat slowly drifted downstream. There were no sounds other than those of birds, insects, and Tyler's oars. No planes passing through the sky. The forest came solidly to the edge of the stream. There was no indication that an axe or saw had ever been used in it.

What a day, but, like all good things, it came to an end too soon. We arrived at the landing near Eureka, and helped put the boat back on the trailer. Tyler took us to his home and showed us the small preserved collection of herps he had assembled. He gave me a pickled short-tailed snake, the first I had ever seen. We thanked him profusely for the two wonderful days he had contributed to our expedition. Later, I bought several snakes from him for the zoo.

The exquisite Oklawaha River was destined to be emasculated by a federal boondoggle. The Cross-Florida Barge Canal was funded by Congress in 1962, and it was planned to make use of the river as a readily available waterway.

A groundbreaking ceremony with President Lyndon B. Johnson present occurred during 1964. Work soon began to clear the river for navigation. Included were dredging and the building of dams, including the Rodman Dam and its attendant lock that remains to this day as the chief impediment to the restoration of a free-flowing river. Conservation organizations under the leadership of the Florida Defenders of the Environment, Inc., have tried for years to have the Rodman Dam removed or breached, but a small group of adamant politicians have managed to thwart them. Once the river is free-flowing again the manatee, Atlantic sturgeon, eels, and other kinds of fishes, some migratory, would be able to reoccupy their former ranges in the Oklawaha watershed.

After leaving Eureka and C. C. Tyler we drove toward Florida's west coast and the tiny town of Seminole northwest of St. Petersburg. There we visited Frank Duhme, Reeve Bailey's cousin, for several days. Although we arrived in quite late afternoon we impatient snake hunters took off with our host and, at his suggestion, for a good place in nearby Clearwater almost at once. We soon had a gulf salt marsh and a ribbon snake. A short time before dark and back near Seminole I vaguely spied a large snake moving rapidly through dense vegetation that, because of its fairly pale coloration I mistook for a coachwhip. I quickly changed my mind, however, when I smelled the pungent odor of cottonmouth musk. I called to the others and by surrounding the area we finally caught the snake, and it was a big one. It moved so fast and was so difficult to follow in the undergrowth and the gathering darkness that we were lucky one of us wasn't bitten. When we were back home in Toledo I checked it out. It weighed five pounds and measured four feet, seven inches long.



A six-foot eastern diamond-backed rattlesnake, *Crotalus adamanteus*. Because of its large size this is one of the most dangerous snakes occurring in the United States.

Our stay near St. Petersburg was both interesting and profitable. Some of Duhme's friends joined us and we split up into pairs or groups. Long Key was alleged to be teeming with diamond-backed rattlesnakes, but an exhaustive search on it turned up only box turtles and southern black racers. One of the latter, apparently after pillaging a nest, was being chased by a red-winged blackbird at the edge of a mangrove thicket. Another racer was lying quietly on a branch within a foot of my face. Rattlesnake Key lived up to its name. A large diamondback in a patch of scrub palmetto put up a stout defense before Reeve and his cousin managed to catch and bag it.

Snakes and lizards of a variety of species were caught and added to our rapidly growing collection. On the mainland the openings of gopher tortoise burrows were conspicuous. We found several of the heavy-shelled reptiles in the open but never before 10:00 o'clock in the morning. They seemed to do their foraging more or less during the heat of the day.

Reeve and I spent most of a non-herpetological day on Bird Key where pelicans and other water birds were nesting and feeding their young.

Following our stay near St. Petersburg we headed south, first crossing the bridge to Tampa. We passed through Sarasota and Ft. Myers, and eventually swung east on the then new Tamiami Trail (Tampa to Miami) across the Everglades. In those days that extraordinary region was truly a "river of grass." Its water had not yet been appropriated in enormous quantities for the works of mankind. Birds requiring an aquatic environment were extremely abundant, both in numbers of species and individuals. So were animals of other kinds, notably snakes. As we were crossing the Big Cypress Swamp I heard a cry that I, as an inveterate zoo man, instantly recognized as the scream of a panther (cougar) that is regrettably now almost extinct in Florida.

Our progress was slow because we stopped for every reptile dead or alive on the highway. In some areas, even on the long way south before we crossed the Everglades, we seemed to add a new locality almost every mile. It was long before Florida filled up with people, the archenemy of wildlife. We found both a chicken turtle and a large Florida softshell turtle walking across the main street in the then small town of Venice.

There was not much traffic across the Everglades, but DOR's (specimens dead on the road) were fairly common. Vultures eating carcasses or flying above them alerted us to stop, but dead birds and mammals were also included in their diets. Live ribbon snakes were abundant, but almost impossible to catch. They were alert and crawled off rapidly before we could get out of our miserable vehicle. They plunged in and swam rapidly across the tepid water on either side of the Trail or hid beneath very heavy stones piled along its northern edge. Many dead ones gave us locality information, however.

We were astounded by the racers. Instead of being black they were blue. We caught no live ones but we picked up two along the Trail that had recently been run over. If we had been home near Toledo we would have called them blue racers, *Coluber constrictor foxi*. Later we picked up three more near Miami. All were strongly bluish dorsally and they had pale whitish venters. We preserved the least damaged one by using the formalin and the hypodermic syringe and needles I had brought from home. Twenty-three years later Auffenberg and Babbitt described the blue Florida racer as a new subspecies, *Coluber constrictor paludicola*, with a range extending across mainland south Florida below Lake Okechobee plus an isolated locality at Cape Canaveral. I included the new snake under the wide-ranging *foxi* as the "Everglades racer" in my field guides because it would closely match the blue racer on the color plate of racers and whipsnakes.

At last we were in Miami, which in 1930 was a small city, totally unlike the mighty metropolis it has now become. The streets were narrow, houses and businesses small, and traffic relatively light. Wonder of wonders, our ancient and top-heavy Willys-Knight had gotten us safely to the end point of our journey. It caused relatively little trouble because our early accident had taught us to keep it in as good shape as possible. We saw to it that the oil was changed, the tires properly inflated, and everything we could do was accomplished. We still had the problem of getting started, especially in the mornings, but we followed the advice of the manager in Atlanta who had told us to pour a little gasoline into the vacuum tank. That quickly got us under way.

We stayed in Miami for a couple of days, enjoyed the inexpensive seafood, and rewatered and curated the livestock. Late one afternoon in what might be likened to the modern rush hour we stalled at a traffic light almost in the exact middle of the intersection, effectively blocking movement in all directions. I was at the wheel. Reeve jumped out, used a wrench to open the vacuum tank and proceeded to follow the prescribed treatment. A policeman quickly arrived, but he seemed so intrigued by what Reeve was doing that he waved us on instead of giving us a ticket.

Our trip homeward was less interesting and exciting. It was quite warm until we crossed the mountains, so we made sure to be on the road in early evening when our headlights illuminated any wildlife on the move. In that way we acquired a corn snake, a *Farancia*, and another cottonmouth among other species. A large black "blob" just off the highway turned out to be a very badly hunchbacked alligator. We spent most of a day in the swamp along the Santee River in South Carolina where we found a king and several water snakes as well as many lizards. Soon we were home after our great adventure with an abundance of reptiles for the zoo collection.

Under the heading of "Field Notes of a Collecting Trip" I wrote a very amateurish article for the Antivenin Institute of America that was published in December 1930. The best and only useful part of it was a detailed list of the localities where we found specimens dead or alive. It was written during the period when using the pronoun "I" was prohibited. Instead, I was forced to use "The writer observed, met, or collected." How stilted and weird it seemed when I read it again recently.

What a trip we had. Including subspecies we had obtained or had to abandon dead on the road there were 13 kinds of turtles, several alligators, seven kinds of lizards, and 32 different snakes, including a new undescribed blue "Everglades" racer. The carnage on the roads seemed ghastly, but it was to increase astronomically as Florida filled up with people and their vehicles.

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A Key to the Shed Skins of Northeastern Snakes

Brian S. Gray
1217 Clifton Drive
Erie, PA 16505-5215

Introduction

As anyone who has spent time in the field searching for snakes can attest, it is quite common to come across a snake's cast skin. I can recall several occasions where turning over some debris yielded a shed. Most often however, due to a lack of a sufficient reference to identify them, the sheds were left unidentified. Many authors state that sheds can be used to identify the species of snake that left the sloughed skin (Wright and Wright, 1957; Klauber, 1972; Linzey and Clifford, 1987; Bechtel, 1995; Mattison, 1995). None however, go into enough (if any) detail on how to accomplish this. Nor do these authors recommend a reference that would aid the amateur herpetologist in identifying sheds. This may be because no such work existed. In addition, more often than not, sheds are found in an incomplete state, usually lacking some of the characters that the keys in most guides and handbooks require for proper identification. For example, the rostral, anterior supralabials, nasals, loreal, internasals, prefrontals, preoculars, infralabials, chin shields, at least some ventrals, anal plate, and subcaudals are frequently missing from field collected sheds (personal observation). The purpose of the following key is to provide a means to identify the shed skins of the twenty-one species of snakes occurring in the northeastern United States. The identification of shed skins can augment data collected for species inventories. On several occasions during surveys, I have found a shed from a species for which the actual snake was not observed. Herpetologists use the calls of frogs and toads in a similar manner. Because marks made by scale clipping are observable in cast skins, sheds can also be of value in mark– recapture studies. Brown and Parker (1976) reported that identification of scale-clipped individuals leaving sloughed skins enabled them to note precise shedding sites in an ecological study of *Coluber constrictor constrictor*.

States covered by this key include Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, and Rhode Island. The key can also be used in northern New Jersey (above latitude 41°15′). I include a general description of the geographic distribution for most species. I would advise users of this key to consult Conant and Collins (1998) or Hulse et al. (2001) for distribution maps for the snake species in the northeast. For those unfamiliar with scale nomenclature I have included definitions for the characters used in this key. It is assumed that the user has at least the anterior third of a shed with at least some of the cephalic scales (e.g., posterior supralabials, postoculars, temporals, and parietals). As with any key, the present one will not be able to identify all sheds found. This is due, in part, to intraspecific variation, and also, the occasional anomalous individual. I have constructed the key to accommodate for some of this variation—dorsal scale rows and pattern. Therefore some species may key out in more than one section of the key. To my knowledge, this is the first key to specifically deal with the identification of shed snake skins. Sheds examined during the development of this key were obtained as follows: collected in the field opportunistically by myself (52.2%, n=80); by others in the field (37.2%, n=54); from specimens in zoological collections (7.6%, n=11).

I hope that my work will encourage others to develop similar keys for other regions.

Characters

To make identification possible we have to determine and define the characters that will help us differentiate between the various species. A character may be any distinctive trait, feature, or quality attributed to an organism; whether physiological, behavioral, anatomical, etc. All characters used in this key are anatomical. This section will also be useful to those unfamiliar with scale nomenclature.

Apical lobe: The posterior-most portion of a scale—permits scales to overlap one another (Figure 1).

Apical notch: A medial indentation on the apex (posterior end) of a scale (Figures 1, 2b and 2c).

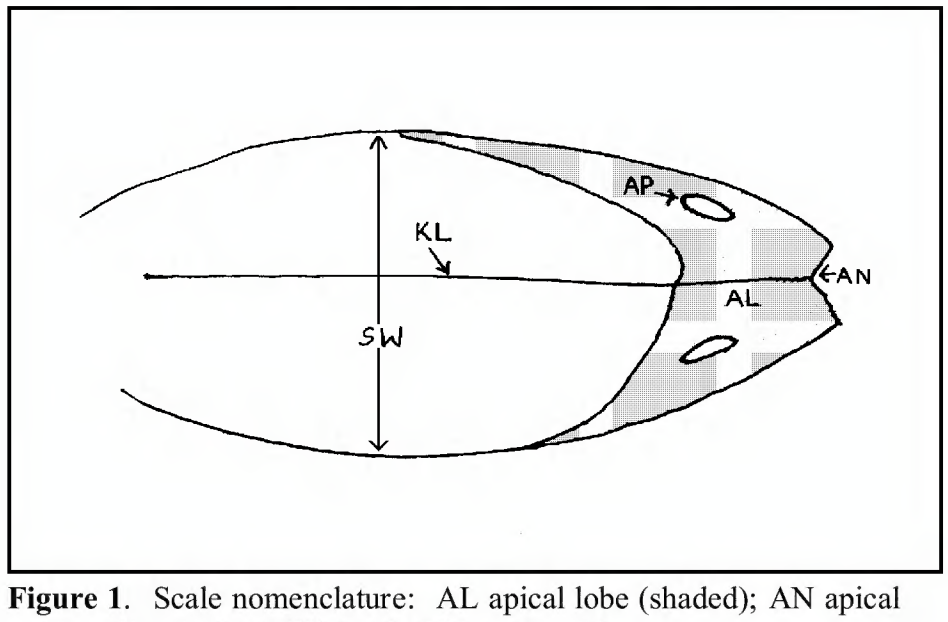

Figure 1. Scale nomenclature: AL apical lobe (shaded); AN apical notch; AP apical pit; KL keel; SW scale width.

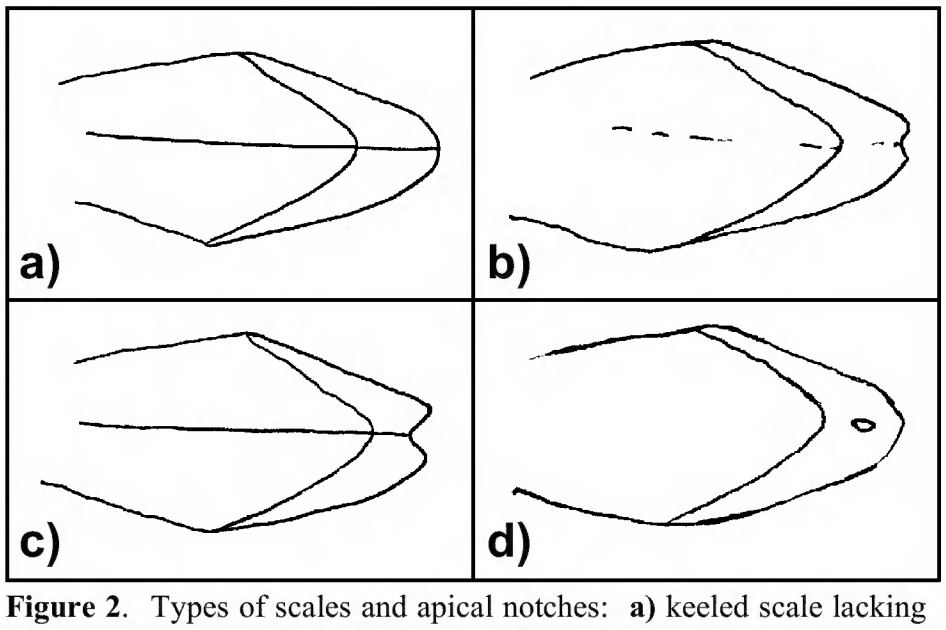

Figure 2. Types of scales and apical notches: **a)** keeled scale lacking apical notch; **b)** weakly keeled scale with shallow apical notch; **c)** keeled scale with deep apical notch; **d)** smooth scale lacking apical notch, and containing a single apical pit.

Apical pits: Slight depressions on the posterior ends of the dorsal scales. May be single (e.g., *Diadophis*) or paired (e.g., *Elaphe*) (Figures 1 and 2).

Dorsal scales: The scales located on the sides and back, above the ventrals. Figure 3 illustrates the method used to count dorsal scale rows (DSR).

DSR 1/VR: Relative width of dorsal scale row 1 (Rossman et al., 1996; p. 29)—width of dorsal scale row 1 (DSR 1) divided by the width of the vertebral scale row (VR). Both dorsal row 1 and vertebral row scales are measured at the maximum vertical width of the scale (Figure 1, SW) measured (preferably) at midbody.

Internasals: Paired scales located in front of the prefrontals (Figure 4, #1).

Keeled scales: Scales with raised medial longitudinal ridges, may be weakly or strongly keeled (Figures 1 and 2).

Lateral stripe: Light or dark colored stripe extending the length of a shed, on the dorsal scales (Figure 3, LS).

Parietals: Large, paired scales on the dorsal surface of the head, behind the frontal (Figure 4, #10).

Parietal spots: Light or dark paired spots, one on each parietal, near the suture between parietals (Figure 4, PS).

Pattern: May be banded (Figure 5), blotched (Figure 11), or striped (Figure 3). Bechtel (1995) states that "melanin accumulated in keratinocytes is visible as a vague pattern in the shed skin of most snakes." Of the 145 sheds of twenty-one species examined during the preparation of this key, all (100%) had melanin deposition. Pattern is usually less visible in the sheds of younger snakes (pers. obs.). In some species (e.g., *Clonophis*) pattern on the shed may be extremely faint (pers. obs.). An interesting note I would like to add is that pattern (vertebral and lateral stripes) may be visible in the sheds of melanistic garter snakes (see Figure 15) (pers. obs.). "All of the trace pattern in the cast of most snakes consists of melanin granules deposited in the epidermis by epidermal melanophores. Dermal and epidermal melanophores both synthesize melanin, but otherwise have different functions. It is possible that the recessive mutation that causes melanism in the garter snake does not effect the epidermal melanophores, which are behaving as they would in a normal snake" (Bechtel, 1999; pers. com.). Therefore, the epidermal pattern of a melanistic individual is the same as a normal specimen—with little melanin being deposited (due to a reduction of epidermal melanophores) in the region of the stripes. The stripes are not visible in the actual melanistic animal because they are masked from below by dermal melanophores.

Prenasal: The scale located anterior to the nostril (Figure 4, #0).

Postoculars: The scales bordering the posterior margin of the spectacle (Figure 4, #7).

Posterior supralabials: Includes the last supralabial to contact the spectacle to the last supralabial at the angle of the mouth (Figure 4, #8).

Shed width: Measured across a spread shed as in Figure 3 (SW).

Smooth scales: Scales that lack keels, flat surfaced (Figure 2d).

Spectacle: The transparent scale that covers the eye (Figure 4, #4).

Supralabials: The scales of the "upper lip," which extend from the rostral to the angle of the mouth (Figure 4, #8).

Temporals: The scales located below the parietals and above the posterior supralabials (Figure 4, #9).

Ventrals: Large, widened scales of the ventral (belly) surface (Figures 3 and 8).

Vertebral scale row (VR): A median, dorsal row of scales; (e.g., #9 in Figure 3). If a vertebral stripe is present, it will include the vertebral scale row.

Vertebral stripe (VS): A median, longitudinal stripe on the dorsal surface involving the vertebral scale row—usually visible in the sheds of the garter snakes (*Thamnophis*) (Figure 3).

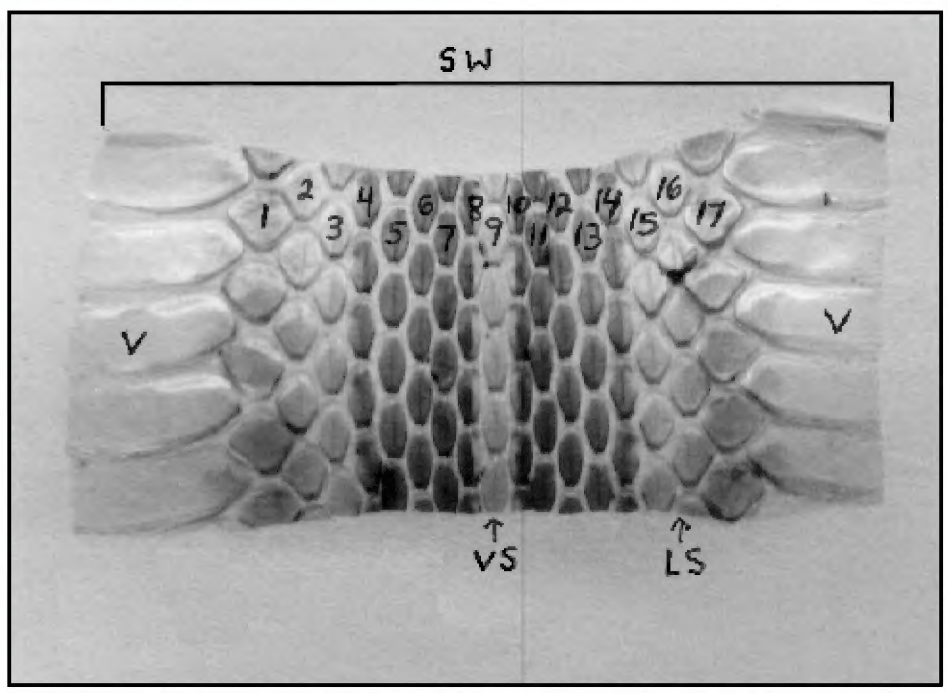

Figure 3. Dorsal Scale Rows (DSR) numbered 1–17; SW shed width; LS lateral stripe; V ventrals; VS vertebral stripe. Shed in photograph is from a *Thamnophis brachystoma*.

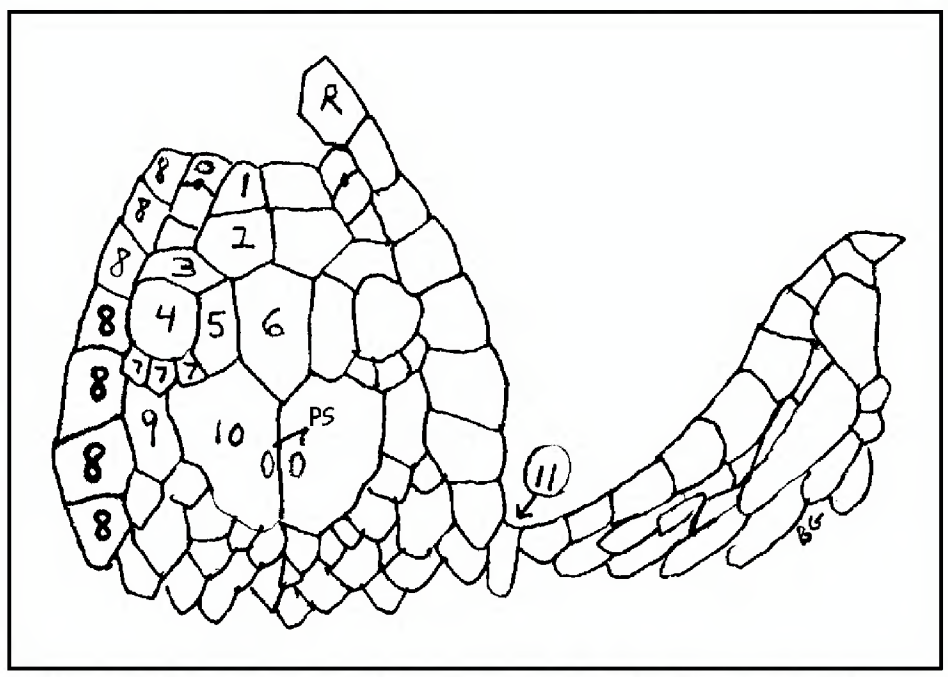

Figure 4. Nomenclature used in the present key: **R)** rostral; **0)** prenasal; **1)** internasal; **2)** prefrontal; **3)** preocular; **4)** spectacle; **5)** supraocular; **6)** frontal; **7)** postoculars; **8)** supralabials (posterior supralabials shaded); **9)** anterior (primary) temporal; **10)** parietal; **11)** angle of the mouth; and **PS)** parietal spots.

Spreading/Mounting and Pressing the Shed

Spreading and mounting a shed allows one to better observe characters that would otherwise be difficult to see. Scales can be miscounted when a shed has folded and adhered to itself. Many of the smaller scales on the head (e.g., preoculars and postoculars) are more visible after spreading and mounting.

The following materials are helpful in spreading/mounting sheds:

1) Plastic sheet. The substrate on which the shed is spread and mounted. Clear plastic page protectors work well. Do not use paper, as it tends to warp. After spreading, you can trim the plastic so that it is slightly larger than the mounted section.

2) Fine pointed scissors. For cutting sheds.

3) Fine pointed forceps. Allow one to manipulate and position the shed during spreading/mounting. They are also useful during examination.

4) Eyedropper. Not absolutely necessary, but helpful. An eyedropper gives one more control over the amount of water applied to a preparation.

5) Paper towels. Used when softening the shed, and during mounting to absorb excess water.

6) Teasing needle. Like the forceps, helpful in manipulating the shed.

I highly recommend purchasing a basic dissecting kit instead of trying to acquire the above instruments separately. Such kits can be purchased at a local science store or through the mail from a scientific supply company.

Additional items required to make identifications include:

Coddington magnifier or stereo microscope: Very useful when inspecting minute characters (e.g., determining if scales are keeled or smooth, apical pits, and apical notches). Although stereo microscopes are much more expensive than magnifiers, they offer superior viewing, with a wider range of magnifications and various combinations of illumination. A magnification of at least 10× is recommended.

Calipers or miniscale: Either of these instruments can be used to take measurements (e.g., scale width). The miniscale (Bioquip products, Gardena, CA) consists of a 5 mm scale in .1 mm divisions and is used with a stereo microscope to obtain direct measurements. I highly recommend the miniscale for making scale width measurements.

Calculator: This can be considered optional. A calculator is useful for obtaining the ratios and or percentages derived from certain measurements. The relative width of dorsal scale row 1 is one such character. Calculators should reduce calculation errors that may occur when figuring with pen and paper.

Ziploc™type bags: These are used for storing sheds until you can identify them. Use one bag for each shed and make sure to include date and locality data. For example, 12 May 1999, PA, Erie Co., Millcreek Twp., Swanville 2, Linden Ball Field. Written notes can also be placed inside the bag. Additional information, such as habitat descriptions, can be useful in determining which species left a shed in a particular environment. For example, the sheds of some species (e.g., *Nerodia s. sipedon*, *Regina septemvittata* and *Thamnophis sauritus* ssp.) are almost always found along bodies of water (pers. obs.). I should add that this does not mean that the sheds of species not normally associated with aquatic habitats—or any other particular habitats—will never be found in such places. I once found a smooth greensnake (*Opheodrys vernalis*) shed along a creek. For habitat descriptions and natural history information on the Northeastern snakes covered by this key, I recommend that the reader consult Hulse et al. (2001).

Permanent Marker: Use this to label specimen bags.

Before attempting to identify a shed you should spread and mount it in two sections (head and body) as described below.

Body section (preferably midbody)

A body section is useful for obtaining dorsal scale row counts (DSR), determining whether scales are keeled or smooth,

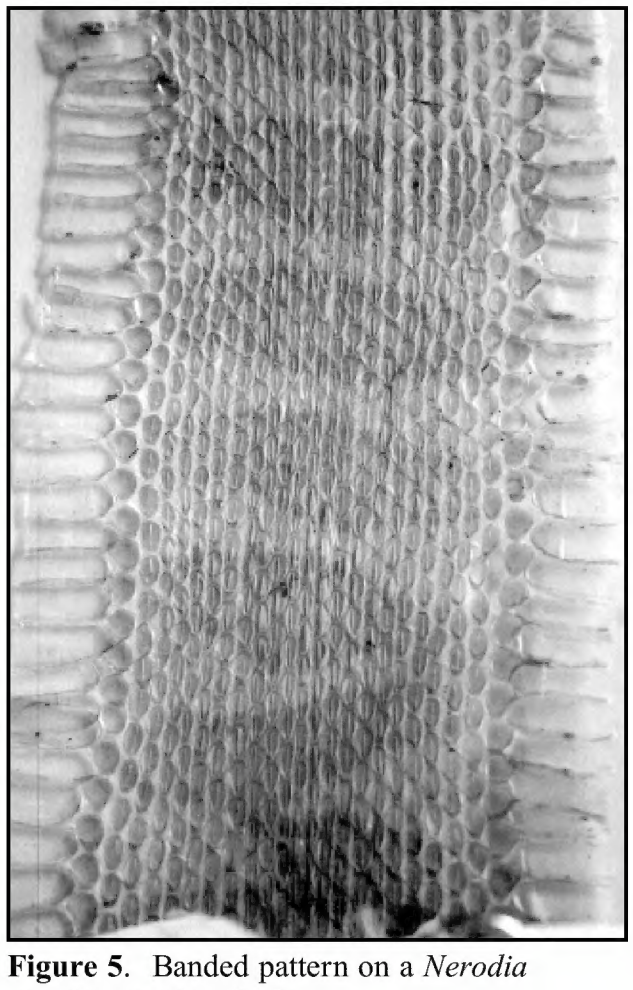

Figure 5. Banded pattern on a *Nerodia sipedon sipedon* shed.

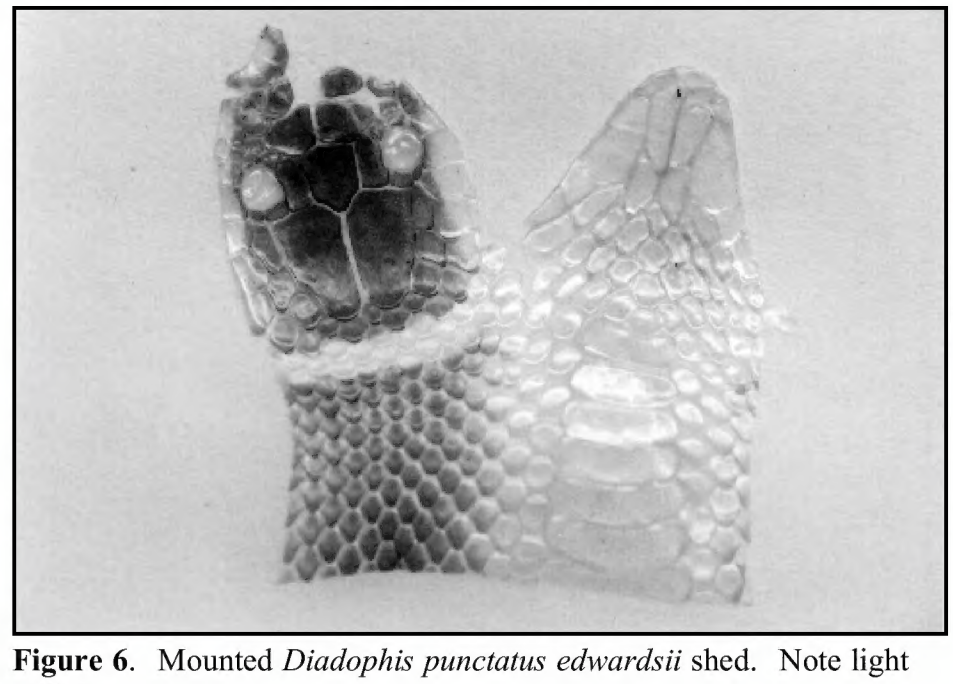

Figure 6. Mounted *Diadophis punctatus edwardsii* shed. Note light collar.

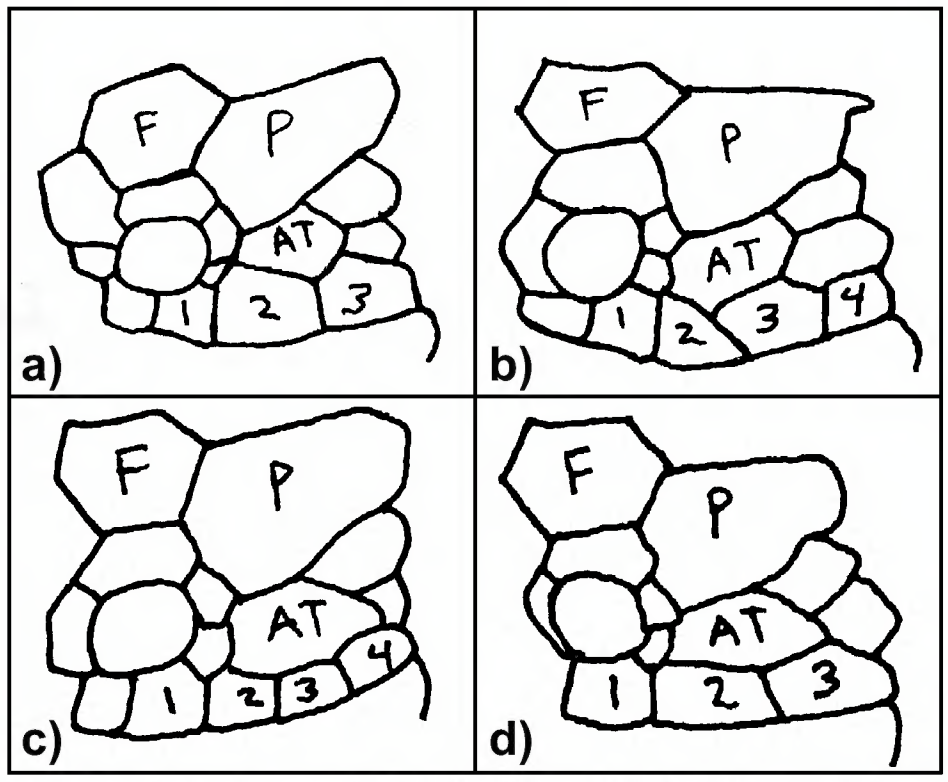

Figure 7. Posterior supralabials (POSL): **a)** POSL 3 *Virginia valeriae pulchra*; **b)** POSL 4 *Opheodrys vernalis*; **c)** POSL 4, with last three (2, 3 and 4) contacting anterior temporal (AT) *Storeria dekayi dekayi*; **d)** POSL 3, with last two (2 and 3) contacting anterior temporal, *Clonophis kirtlandii*. F frontal, P parietal.

and also for taking measurements from scales.

If you have a partial shed (anterior third), make a cut across the shed about 2 cm behind the parietals. Save the head section for later mounting. Next, make a medial, anteroposterior cut through the ventrals. Try not to cut into the dorsal portion of the shed which may occasionally adhere to the ventrals. After cutting through the ventrals, you should be able to "open" the shed and lay it flat on a plastic sheet as in Figure 3. Next, fold a paper towel so that it is just large enough to cover the section of shed and place it on top of the section to be mounted. With an eyedropper, add enough water to saturate the paper towel, and allow it to sit for a half-hour or so. This will help soften the shed. Once softened, blot the section with a dry paper towel to remove excess water. Then hold one side down with the side of a teasing needle (not the point), while gently pulling on the opposite side with forceps. Continue to manipulate the shed until all creases and folded-over areas are removed. Take care not to tear the shed while spreading it. Once the shed is spread, cover it with a few dry paper towels and place a good size stack of books on it. A mini plant press also works exceptionally well for pressing sections of sheds. Allow it to press overnight. As long as you removed the excess water before pressing, the section should be dry the following day. The shed will adhere to the plastic sheet.

If the shed is entire, fold it in half so that the head portion is adjacent to the tail section. Cut about a 2.5 cm section from the shed at the bend. Next, hold the section so that the ventrals are facing upwards. Then make a cut through the middle of the ventrals so that the section can be opened and laid flat. Continue to prepare the section as described above for a partial shed.

Head section

Preparing the head section is a bit more challenging. First, locate the "head" and measure about 2 cm (about 1 in) behind it. At the point of measurement, make a cut across the shed to separate the head portion from the remainder (body section).

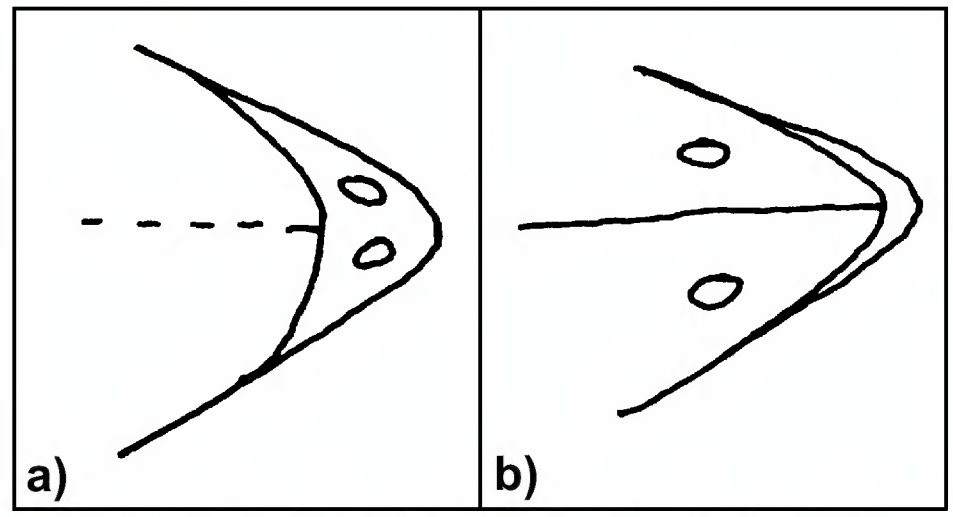

Figure 8. Location of apical pits on dorsal scales: **a)** within lobe; **b)** beyond lobe.

Find the angle of the mouth (Figure 4, #11). Either side can be used to make the cut. With the angle of the mouth located, make a cut so that the head portion of the shed opens up with the cephalic and mandibular sections side by side (Figures 4 and 6). It may be necessary at times to soften the shed with a small amount of water before making the above cut. Next, place the section on a plastic sheet with the scales' outside (convex) surface facing upward. If the shed has not been softened previously, it would be beneficial to do so now. Soften the head section as described above for the body section. If it has absorbed enough water it should noticeably stretch when pulled. Once the section is softened, blot it with some paper towels to remove excess water. With a teasing needle and your forceps work the shed until it is void of unwanted creases. In order to get the anterior portion of the dorsal surface to lie flat, it may be necessary to separate the rostral scale from the first supralabial, prenasal, and internasals on one side of the shed. The easiest way to accomplish this is to hold down the right (or left) first supralabial with your teasing needle. Position the point of the needle so that it rests on the suture between the first supralabial and the rostral. Then gently pull (away from the supralabial) on the rostral scale with forceps until it separates at the suture. When you have made the separation at the supralabial, you will repeat the previous procedure with the prenasal and internasals. Place the side of the teasing needle on the suture between the rostral and prenasal and separate it as you did the supralabial. Do not completely separate the rostral scale; partial separation (one side) should allow the section to be mounted flat. The section should appear as in Figures 4 and 6. Press the section as described above. If you wish you can "permanently" mount prepared sections by laminating them.

To better view the pattern, it may be helpful to place the mounted section on a white background. Similarly, a black background will make individual scales more distinct.

Key to the Sheds of Northeastern Snakes

1A. Dorsal scales smooth (Figure 2d) ----------2
B. Dorsal scales keeled (Figures 1, 2a, 2b and 2c) ----------7

2A. Dorsal scale rows (DSR) 13 (Figure 3), uniformly pigmented, single postoculars; shed found in eastern PA, southeastern NY, CT, southwestern MA or western RI ------ *Carphophis amoenus amoenus* (Eastern wormsnake)
B. DSR > 13; postoculars 2 or occasionally 3 ---------- 3

3A. DSR 15; shed width (SW, Figure 3) usually less than 40 mm ----------4
B. DSR ≥ 17; shed width usually greater than 40 mm ------6

4A. Light collar on nape (Figure 6); dorsal scales usually have a distinct single apical pit (Figure 2d) ---- *Diadophis punctatus edwardsii* (Northern ring-necked snake)
B. Not as above ---------- 5

5A. Posterior supralabials (POSL) 3 (Figure 7a); shed found in southeastern PA --- *Virginia valeriae valeriae* (Eastern smooth earthsnake)
B. POSL 4 (Figure 7b); shed found throughout most of the region covered except southeastern PA -------- *Opheodrys vernalis* (Smooth greensnake)

6A. DSR 17, uniformly pigmented (dark); ventrals with dark pigment on ends (Figure 9) ----------*Coluber constrictor constrictor* (Northern black racer)
B. DSR 19– 21, blotched pattern visible on shed (Figure 11) ----------*Lampropeltis triangulum triangulum* (Eastern milksnake)

7A. Apical notch absent (Figure 2a) ----------8
B. Apical notch present—may be shallow (Figure 2b or 2c) ---------- 16

8A. DSR 15; scales weakly keeled (Figure 2b); DSR 1 & 2 lack keels; shed found in the Allegheny Mountains/ Plateau region of western PA -- *Virginia valeriae pulchra* (Mountain earthsnake)
B. DSR ≥ 17 ----------9

9A. DSR 17 ----------10
B. DSR >17 ---------- 11

10A. Scales weakly keeled (Figure 2b); shed found in the Allegheny Mountains/Plateau region of western PA ----------*Virginia valeriae pulchra* (Mountain earthsnake)
B. Scales strongly keeled (Figure 2a); shed found in southeastern PA -------*Opheodrys aestivus* (Rough greensnake)

11A. Uniformly pigmented or median dark stripe 8– 10 scale rows wide ---------- 12
B. Blotched or banded pattern; DSR 23– 25 ----------13

12A. DSR 23– 25; ventrals not pigmented; found in all states except ME -----*Heterodon platirhinos* (Eastern hog-nosed snake)
B. DSR 25– 27; median dark stripe 8– 10 scale rows wide; edges of ventrals with dark pigment (Figure 9) ----------*Elaphe obsoleta obsoleta* (Black ratsnake)

13A. Blotched pattern ---------- 14
B. Banded pattern ----------15

14A. Scales weakly keeled (Figure 10); found in all states except ME -----*Heterodon platirhinos* (Eastern hog-nosed snake)
B. Scales strongly keeled (Figure 12); shed found in western NY or western PA ------*Sistrurus catenatus catenatus* (Eastern massasauga)

15A. Hourglass-shaped bands (Figure 13); apical pits conspicuous and well removed from the scale lobe (Figure 8b); shed found in southern 2/3 of PA, southeastern NY, northern NJ, CT, or extreme southwestern MA ---------*Agkistrodon contortrix mokasen* (Northern copperhead)
B. Chevron-like bands (Figure 14); apical pits, if visible, within scale lobe (Figure 8a); shed found in all states covered except ME and RI ----------*Crotalus horridus* (Timber rattlesnake)

16A. Uniformly pigmented ----------17
B. Shed has a visible pattern (banded, blotched or striped) ----------25

17A. DSR 15 ----------18
B. DSR > 15 ---------- 19

18A. Dorsal scales weakly keeled, with shallow apical notches (Figure 2b); DSR 1 and 2 lack keels; shed found in the Allegheny Mountains/Plateau region of western PA ----------*Virginia valeriae pulchra* (Mountain earthsnake)
B. Dorsal scales strongly keeled (including DSR 1 and 2), with deep apical notches (Figure 2c); shed found in any of the states under consideration -------- *Storeria occipitomaculata occipitomaculata* (Northern red-bellied snake)

19A. DSR 17 ---------- 20
B. DSR ≥ 19 ----------22

20A. Dorsal scales weakly keeled, DSR 1 and 2 lack keels, shed found in the Allegheny Mountains/Plateau region of western PA ----------*Virginia valeriae pulchra* (Mountain earthsnake)
B. Dorsal scales strongly keeled—including DSR 1 and 2 ----------21

21A. Last three posterior supralabials (POSL) make broad contact with the anterior temporal (Figure 7c); shed found throughout region ---------- *Storeria dekayi dekayi* (Northern brownsnake)
B. Only two POSL contact anterior temporal (Figure 7d); restricted to west-central PA ----------*Clonophis kirtlandii* (Kirtland's Snake)

22A. DSR 19 ---------- 23
B. DSR ≥ 21 ---------- *Nerodia sipedon sipedon* (Common watersnake)

23A. POSL 3 (Figure 7d); restricted to west-central PA ---------- *Clonophis kirtlandii* (Kirtland's snake)
B. POSL 4 (Figure 7b) ---------- 24

24A. Postoculars 2; DSR 1 and 2 may be lighter than those above; restricted to western NY and PA ----------*Regina septemvittata* (Queen snake)
B. Postoculars 3; DSR 1– 3 may be lighter than those above; shed found throughout region ---*Thamnophis sirtalis* ssp.† (Common gartersnake)

25A. Blotched or banded pattern ----------26
B. Striped pattern (vertebral and/or lateral stripes) -------- 28

26A. DSR 17– 19; four rows of alternating blotches ----------27
B. DSR 21; banded anteriorly (Figure 5), becoming blotched near midbody ---------- *Nerodia sipedon sipedon* (Common watersnake)

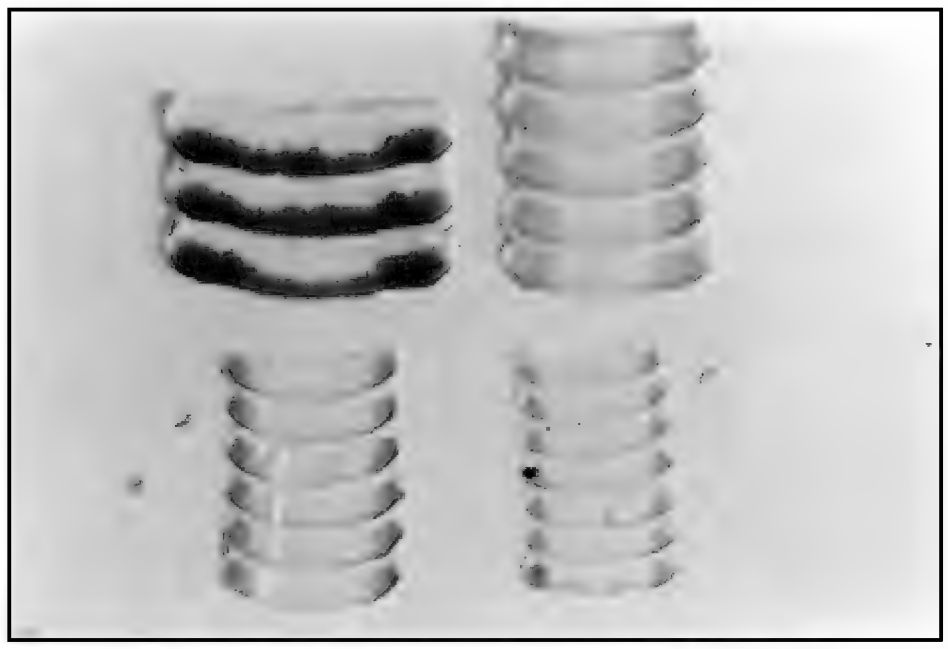

Figure 9. Melanin deposition on the ventrals. Upper left: *Elaphe obsoleta obsoleta*; bottom left: *Thamnophis sauritus* ssp.; upper right: *Coluber constrictor constrictor*; bottom right: *T. sirtalis sirtalis*.

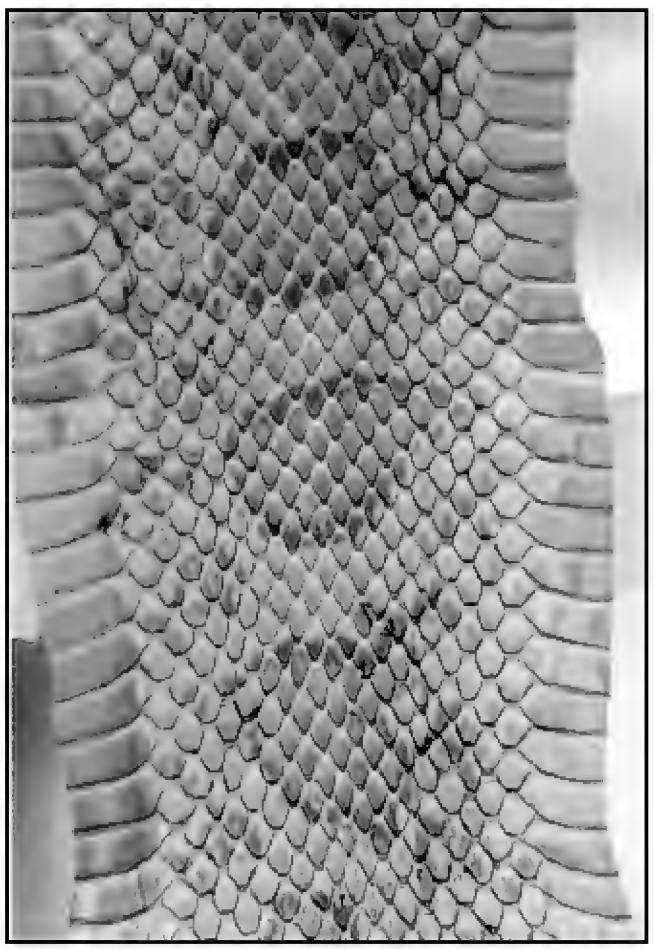

Figure 11. Blotched pattern of *Lampropeltis triangulum triangulum*.

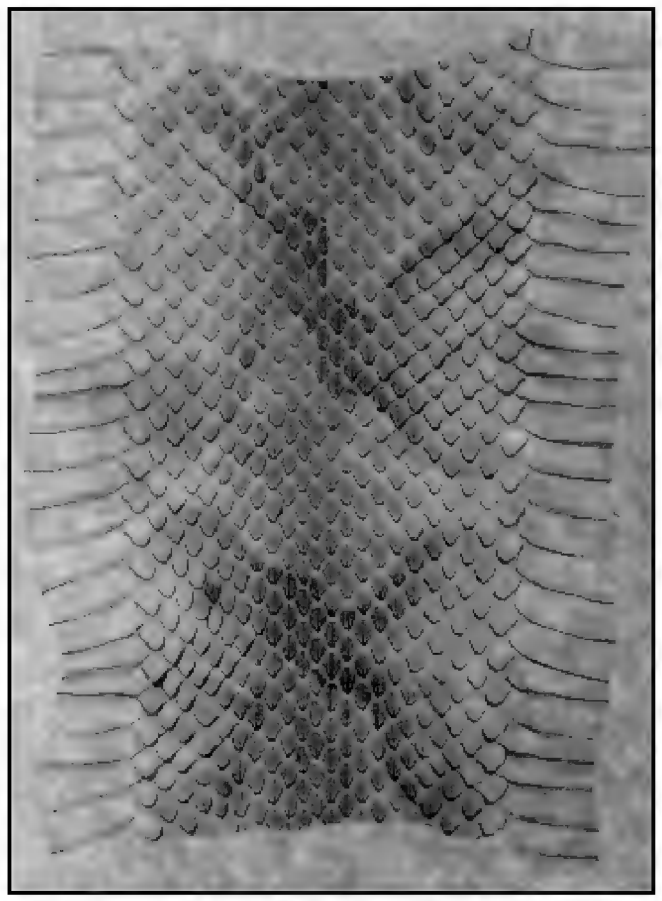

Figure 13. Faint "hourglass" pattern of *Agkistrodon contortrix mokasen*.

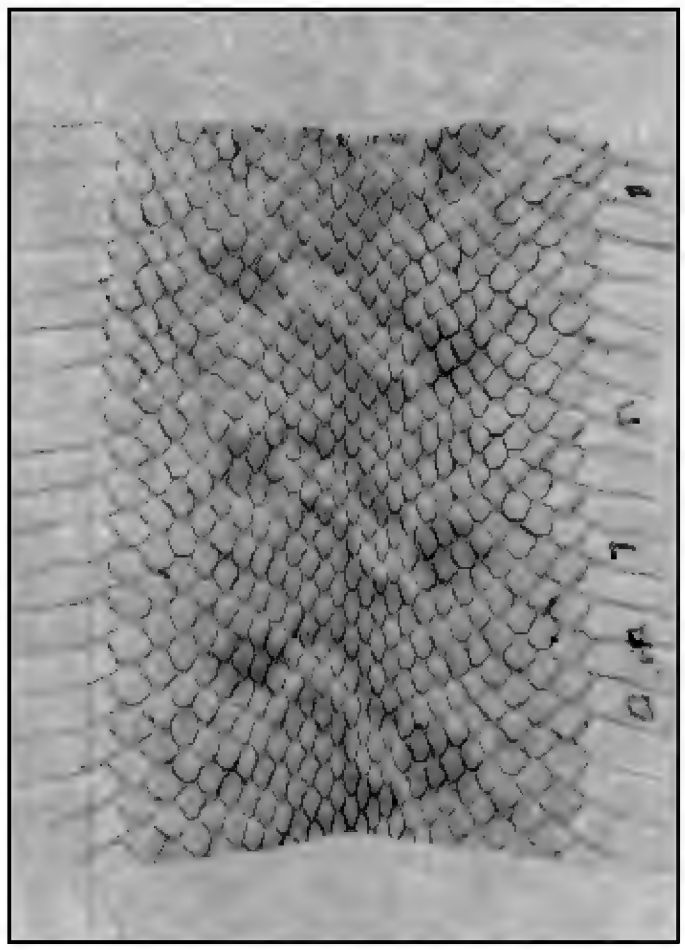

Figure 10. Blotched pattern of *Heterodon platirhinos*.

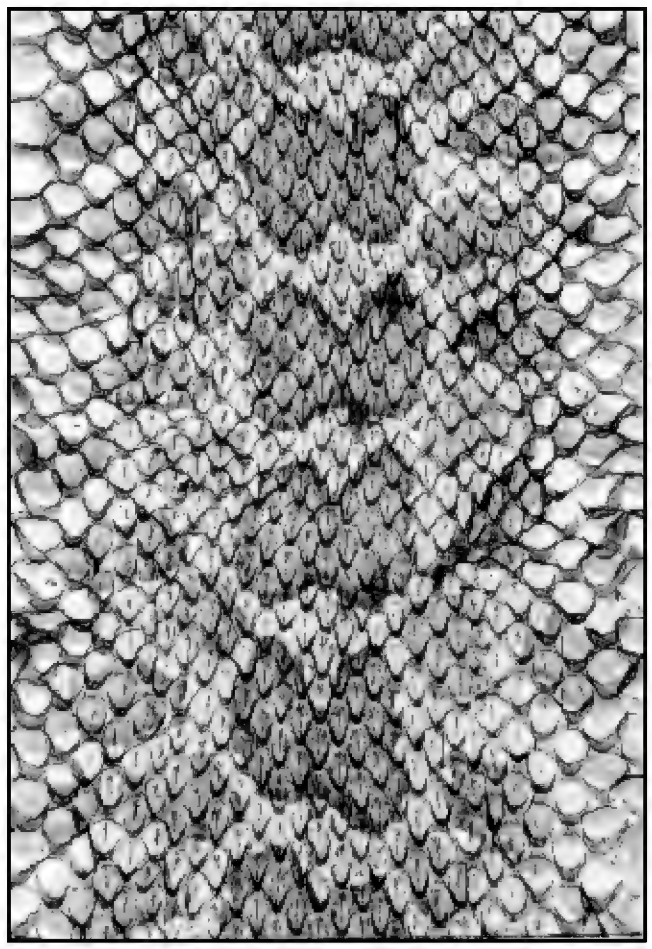

Figure 12. Blotched pattern of *Sistrurus catenatus catenatus*.

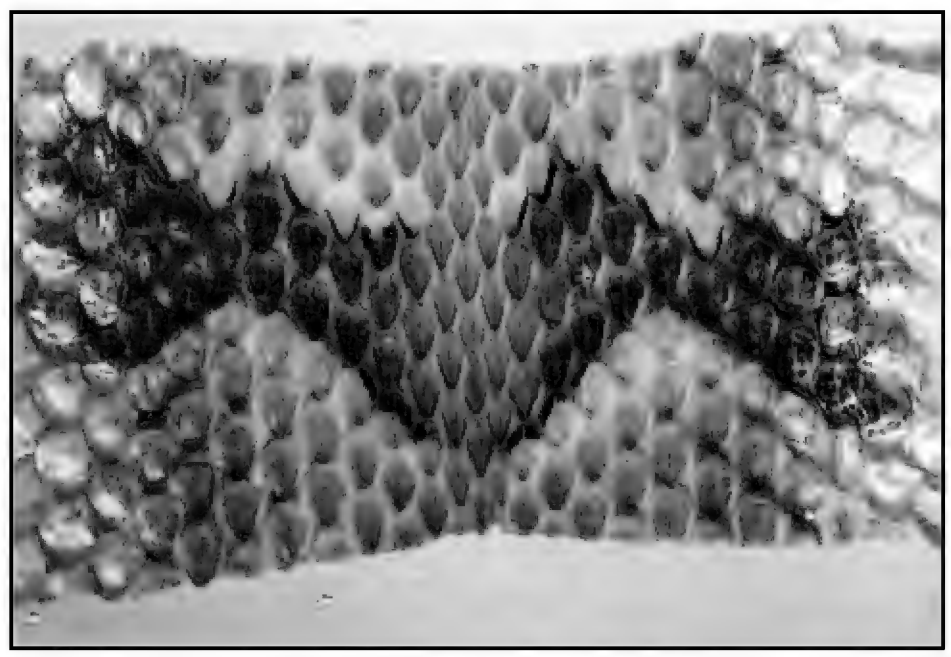

Figure 14. A typical chevron band from a *Crotalus horridus* shed.

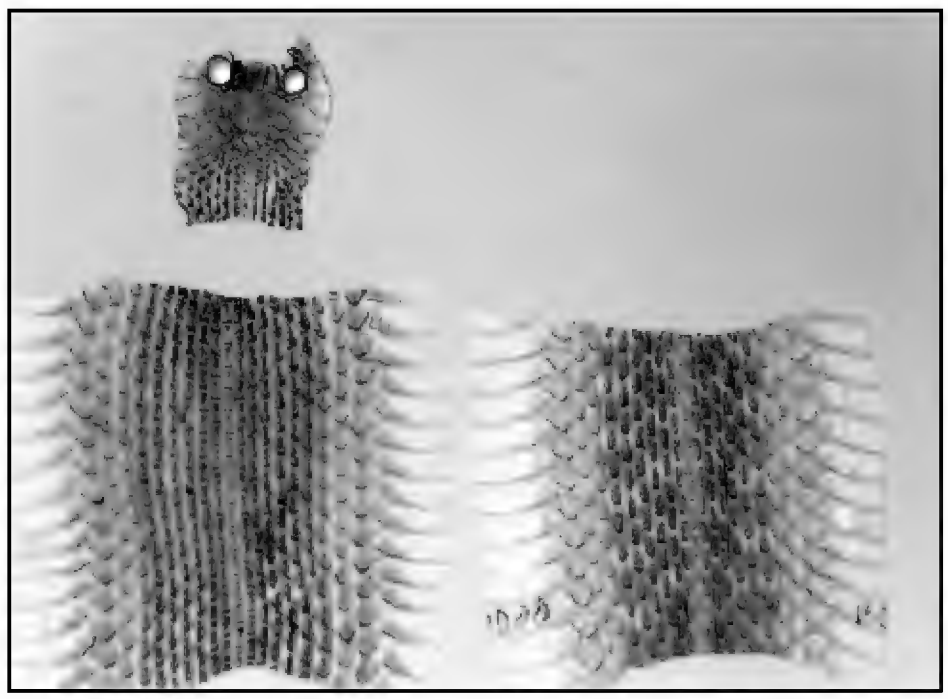

Figure 15. Pattern in *Thamnophis sirtalis sirtalis* sheds. Left shed is from a melanistic individual. The shed on the right is from a "normal" individual and shows the alternating blotches that are vaguely visible in some *T. sirtalis* sheds. Note that both sheds have a striped pattern.

27A. POSL 3 Figure 7d); never a vertebral stripe; restricted to west-central PA --------*Clonophis kirtlandii* (Kirtland's snake)

B. POSL 4 (Figure 4); a light vertebral stripe may be present (Figure 15); found throughout region -----*Thamnophis sirtalis* ssp.† (Common gartersnake)

28A. DSR 15; lateral stripes on DSR 5 and 6 darker than ground color ----------*Storeria occipitomaculata occipitomaculata* (Northern red-bellied snake)

B. DSR > 15 ----------29

29A. DSR 17 ----------30
DSR 19 ----------31

30A. Light vertebral stripe, lateral stripes on DSR 2 and 3 (Figure 3, LS), two POSL contact anterior temporal; distinct parietal spots (Figure 4, PS), restricted to the Allegheny Plateau in western NY and western PA ----- ----- *Thamnophis brachystoma* (Short-headed gartersnake)

B. No vertebral stripe; dark lateral stripes on DSR 6— sometimes including DSR 5; last three POSL make broad contact with anterior temporal (Figure 7c); no parietal spots; shed found throughout region ----- *Storeria dekayi dekayi* (Northern brownsnake)

31A. No vertebral stripe; light stripes on DSR 1 and 2; postoculars usually 2, restricted to western NY and PA ---- ---------- *Regina septemvittata* (Queen snake)

B. Light vertebral and lateral stripes present; postoculars normally 3; found throughout most of region ----------32

32A. Striped pattern may be faint; lateral stripes on DSR 2 and 3, alternating blotches are sometimes visible between stripes (Figure 15); the vertical width of scales in the first dorsal scale row much broader than those in the vertebral scale row (DSR 1/VR ≥ 2.0) ---------- ----------*Thamnophis sirtalis* ssp.† (Common gartersnake)

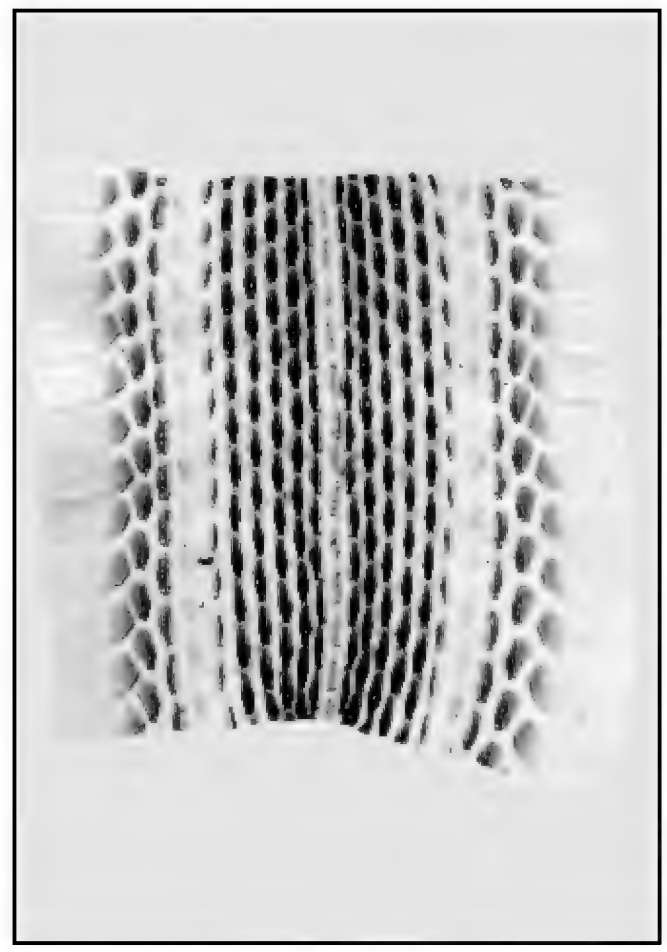

Figure 16. Vivid striped pattern of *Thamnophis sauritus septentrionalis*.

B. Striped pattern vivid; lateral stripes on DSR 3 and 4; alternating blotches lacking between stripes (Figure 16); the vertical width of scales in the first dorsal scale row not much broader than those in the vertebral scale row (DSR 1/ VR usually 1.2– 1.5) ----------*Thamnophis sauritus* ssp.† (Eastern ribbonsnake)

† See Conant and Collins (1998) or Rossman et al. (1996) for maps and information regarding the geographic distribution of the subspecies of *Thamnophis sirtalis* and *T. sauritus*.

Note: If you have any comments regarding this key, or difficulty identifying a field collected shed from the region covered, please write to me at the address above. Sheds you wish to have identified can be sent in 9 × 12 inch clasp envelopes.

Acknowledgments

I wish to thank the following individuals for providing shed skins, without their help this work would not have been possible: Brian Wettekin, Paul Curtis, Mark Lethaby, Mike Jackson, Lisa Vaughan, Bob Bolekey, Heather Schaettle, Brian Winslow (Asbury Woods Nature Center), Susan Craycroft (Louisville Zoological Garden), Andy Snider (Detroit Zoological Institute), and Tom Nunamacher (Pennsylvania Fish and Boat Commission).

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Bull. Chicago Herp. Soc. 37(7):128, 2002

Remarks on the type designation of *Leptophis majalis* Baird and Girard 1853 (=*Opheodrys aestivus majalis* Grobman 1984)

Harlan D. Walley and Lori Janus
Department of Biology
Northern Illinois University
Dekalb, IL 60115
E-mail: hdw@niu.edu

In a forthcoming species account for the *Catalogue of American Amphibians and Reptiles*, Walley and Plummer (In press), comment on the lectotype of *O. aestivus majalis*, which is now considered a synonym of the monotypic species, *Opheodrys aestivus*. The authors comment on the lectotype as a "co-type" (syntype) of *Leptophis majalis* Baird and Girard (1853), deposited in the United States National Museum (USNM 1436 and 1436a). Since that time information has come to light that was not available at the time the manuscript went into press.

Recent correspondence from Ronald I. Crombie reveals that Cochran's (1961) concept of "paratypes" in older names (Baird and Girard 1853, and Cope 1898(1900) is seriously flawed. According to Dr. Crombie "the three specimens of *L. majalis* should properly be regarded as syntypes but Cochran referring to 1436 as 'holotype' is an inadvertent (but still valid) lectotype designation. The lack of agreement in the total number of specimens (3 in Baird and Girard, and 4 in other authors) can be attributed to the chaos Cope inflicted on the United States National Museum (USNM) and the Academy of Natural Sciences, Philadelphia (ANSP) collections (see, for instance, Crombie [1999])." Cochran's "holotype" designation was probably based on Stejneger's extensive in-house research on Yarrow's unpublished notes regarding the exact specimens Baird and Girard used in their descriptions. Unfortunately, Stejneger died long before he could review Cochran's manuscript that resulted in the type catalogue, leaving numerous corrections that need to be made in a forthcoming edition.

The authors are indebted to Dr. Ronald I. Crombie and Traci D. Hartsell of the United States National Museum for providing the necessary information.

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Bull. Chicago Herp. Soc. 37(7):129, 2002

Book Review: *Amphibians of Central and Southeast Africa* by Alan Channing 2001. Comstock Publishing Associates, a Division of Cornell University Press, Ithaca and London x + 470 pp. Hardcover, dust jacket. ISBN: 0-8014-3865-9. $49.95*

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Michael Redmer
456 Kilkenny Court
Carol Stream, IL 60188

There is no shortage of regional reference texts covering the amphibians and reptiles of states, commonwealths, provinces, or smaller jurisdictions in North America. Indeed it seems as though two, three, or more such texts are published each year. Most of these immediately become "must have" items for collectors of books on herpetology. In the past decade or so there also seems to have been an explosion of regional texts on herpetofauna of more exotic, and sometimes more nebulously defined areas.

In this volume, Alan Channing provides species accounts for 205 named species of anurans and two caecilians from central and southern Africa. The author defines this area, roughly one-third of the continent, as the ten sub-equatorial African countries: Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe.

As is usually the case in books like this, the species accounts comprise the bulk of the text. In this book, for each species account the author provides common and scientific names, and in most cases he also lists a few alternative common names as well. Detailed descriptions of adults (usually also including any notes about sexual dimorphism), distribution and habitat (accompanied by a map), advertisement calls of anurans, breeding season and behavior, and sometimes notes on diet and behavior. The species account section is grouped into subsections of genera, and at the beginnings of generic sections there are brief keys to the species; these are accompanied by descriptive illustrations of some morphological characteristics or color patterns. Color plates are grouped in the middle of the book, and each includes eight photographs. Of these, there are 189 color images of frogs, one of a caecilian, and two of fossil frog and tadpole, respectively. Most of the photographs are of excellent quality.

Other features of the book include a number of brief, but interesting sections in the introduction, in which the author discusses major habitat regions of southern Africa, a brief history of amphibian studies in southern Africa, a list of the important natural history museums in the region, and suggestions for collecting amphibians and data for these museums. No post-1990 (the beginning of "amphibian decline era") text on amphibians would be complete without a section on amphibian conservation. The author nestles this topic within a chapter called "Frogs and Man," in which he also discusses a suite of other topics including uses of anurans (physiological studies, toxicology studies, frogs as food, and frogs in captivity, to name a few). The author also presents a list of species now listed in the World Conservation Union's "Red Book" of threatened or endangered species, which designates several categories of conservation status, one of which is assigned to each of the 37 species on the list.

A short chapter immediately preceding the species accounts explains how to use the species accounts, includes a glossary to terminology used in the generic keys, and then gives a brief key to the families covered in the book.

One of the most interesting aspects of this book is the inclusion of an entire chapter (38 pages) devoted to the tadpoles of southern African frogs, at least for those that are known. As is the case throughout much of the world, descriptions and studies of tadpoles has lagged far behind work on terrestrial life stages. While this section is thus incomplete, it will certainly provide an important reference to tadpoles of this region.

To end, the author included a large bibliography of studies on frogs of southern Africa, a systematic index of species in the region (including authorities to whom scientific names are attributed), and an index to the text of the book.

My criticisms are few. The species accounts tend to be brief, and in some cases I found myself craving more information about certain species. In fairness however, this is probably both a reflection of the scarcity of data on some species, and an editorial restriction that was needed to keep the text in one published volume. Including supporting chapters, a huge bibliography, and coverage of 205 species in individual accounts, all within a 470-page book, was probably a difficult feat for the author. The bibliography would have been much more useful if it were somehow cross-referenced or annotated with the text. While some of the references in the bibliography are cited in the text, many are not, so as it appears now, the bibliography is just a long alphabetized list.

Given the amount of information, the quality of the binding, paper, and photographs, this book is very reasonably priced. In the ever-growing pile of regional reference texts, this book will surely take is place as one of the definitive texts on African amphibians, and serious or casual herp book collectors alike should consider it one of the newer "must-have" additions to their libraries.

Bull. Chicago Herp. Soc. 37(7):130-132, 2002

HerPET-POURRI

by Ellin Beltz

Accuracy in journalism

• The *Vanity Fair* April 2002 monthly calendar reads: "April 26: Mangum, Oklahoma: the Mangum Rattlesnake Derby. This event is perhaps best captured by the phrase 'utterly repulsive.'"

• The headline of a story about alligator mating season quotes a Florida Fish and Wildlife Conservation Commission alligator specialist, "When they eat your dog, they're not so cute." *USA Today* also reports some interesting statistics. In 1981, five people were killed by gators, in 1991, 17 and in 2001, only 11. There were 4,931 complaints in 1981, 11,965 in 1991 and 16,749 in 2001. Resulting from these complaints, in 1981, 1,871 alligators were killed; 4,228 died in 1991 and in 2001 an astonishing 7,279 gators were trapped and killed as "nuisance gators." Crunching these numbers results in some interesting perspective. In 1981 there were 2.6 complaints for each dead gator, in 1991, the number had increased to 2.8. By 2001, it was easier to get a gator killed, there were only 2.3 calls for each gator. From the creature's perspective however, consider this. In 1981, 374 gators died for each human killed by a gator; in 1991 249 to one and in 2001 a whopping 662 animals were killed for every human death.

Honey, I shrunk more species!

"The thousands of minute scales [on *Typhlops caymenensis*] give this little snake a velvety, almost liquid appearance—when it moves it looks like a self-propelled trickle of oil. The blind snake can achieve [maximum] lengths of up to 10 inches," said the Manager of Environmental Programs for the Cayman National Trust. Grand Cayman Island is the only place on earth where the tiny blindsnakes are found. The Caribbean has other miniature species including the world's smallest bird and the tiny lizard just recently discovered. [*The Caymanian Compass*, June 10, 2002, from Larry Reed]

Unwanted range extensions

• An 18-inch Savannah monitor was turned in to the Honolulu Zoo by five people under Hawai'i's amnesty program for alien species. These monitors are native to Africa and can grow to more than a yard long and weigh up to 12 pounds. For those wishing to report alien species or turn in alien pets, a special hot line has been established by the Hawai'i Department of Agriculture: 586-PEST (7378). [*Honolulu Advertiser*, May 18, 2002, from Ms. G. E. Chow]

• For the first time in the decade since the "amnesty bins for illegal items" were placed at Honolulu airport, someone has discarded a live snake. The foot-long ball python was discovered coiled around metal tongs used to sift through the contraband. Usually the bins contain plant material and trash. An airsickness bag with holes in it was also found. This was the second ball python found in Hawai'i in the past year. Last June, one was confiscated from a home. [*Honolulu Advertiser*, June 4, 2002, from Ms. G. E. Chow]

• A retired Hawai'i state forester "out for a walk" picked up the first documented green-and-black poison dart frog in downtown Wailuku, Maui. The forester reports his daughter saw the tiny frog, but thought it was a charm—until it hopped. He caught the frog in a container and took it to the state wildlife biologist where it was identified as a *Dendrobates auratus*. Persons with information about other invasive species on Maui can contact the Invasive Species Committee at 579-2116. It has been known for years that these frogs were introduced to upper Manoa Valley on Oahu Island in 1932 for mosquito control.

• An 18-foot-long, 200-pound Burmese python that had been living near a service plaza on the Florida Turnpike for the past year is headed for a new life at a wildlife sanctuary. Several people were required to make the capture. The snake probably ate possum, raccoon, birds and maybe a few cats and dogs. [Orlando, Florida, *Sentinel*, April 20, 2002, from Bill Burnett]

Lake Griffin update

A University of Florida researcher has discovered that the blue-green algae *Cylindrospermopsis* produces not only a liver toxin but Anatoxin-A. This powerful toxin affects nerve impulse transmission to muscles and causes paralysis. The alligators in Lake Griffin have had this toxin in their bodies, but do not show complete paralysis, rather they are uncoordinated and slow. So there is still no direct link between the toxic algal byproducts and alligator deaths in the lake. More work including a study of vitamin interactions and deficiencies is in progress. Last year 75 dead alligators were found at Lake Griffin, bringing the total known mortality to 380 adult alligators. [Leesburg, Florida, *Daily Commercial,* March 21, 2002, from Bill Burnett]

Shake out your shoes

The deadliest critter at the Kandahar, Afghanistan, U.S. air base (other than a U.S. Marine) is the sand-colored carpet viper. This 2-foot-long snake's venom causes bleeding and blood clots which can kill people if antivenom is not promptly administered. A health and safety officer reported finding about a dozen in 30 minutes spent looking for dangerous animals on the base. The Asiatic cobra (*Naja naja*) is also found in the area, but none has been found on the base, so far. [*Arkansas Democrat-Gazette*, March 9, 2002, from Bill Burnett]

Exercise due caution

• Don't mess with venomous snakes this summer in particular. American supplies of antivenom are at an all-time low; some areas have none and others have just a few vials. The problem is twofold. First the long-time maker of old antivenin decided to stop production because of lingering allergy problems for a very few users. The new manufacturer uses a new process and geared right up into production. However, the whole nation's supply, about 10,000 vials, were recalled by the government because of contamination in January. Doctors are now forced evaluate every bite case to decide if the remaining few vials of

antivenin can or should be used for the patient. [*Miami Herald*, April 28, 2002, from Alan Rigerman]

• Don't forget the Laszlo protocol for venomous or dangerous animals: 1.) Never handle the animal alone. 2.) See rule 1.

• Just for reference, in the U.S. every year, about 8,000 people are bitten by venomous snakes. Of these, 15 or so are fatal according to the U.S. Food and Drug Administration. [*Arkansas Democrat-Gazette*, May 23, 2002, from Bill Burnett]

• How not to treat a snakebite: Do not use ice. Do not use tourniquets. Do not use electric shock. Particularly do not kiss a car battery to get a shock after a snakebite. Do not cut into the bite. Do not try to catch the snake that bit you. Do not run around in circles screaming and getting all agitated. What you should do is call 911 for transport to the nearest medical facility. [*Post-Tribune,* Jefferson City, Missouri, March 27, 2002, from Vicky Elwood]

Leave wildlife wild

"Animals are called 'wild' for a reason. . . . Florida records reveal 287 serious alligator attacks since 1948, with almost two-thirds occurring between 1990 and 2001. . . . Wildlife experts say the predators aren't getting more vicious. The rise in attacks can be blamed on the fact people are more likely than ever to come across one of the animals. . . . 'People who think they love wildlife have somehow got it in their heads that wild creatures reciprocate the emotion,' said . . . a warden and naturalist . . . [and added] 'Griz don't care how much you gave to Greenpeace.' [*Arkansas Democrat-Gazette*, February 2, 2002, from Bill Burnett]

Gotta have more golf courses

The last known population of Mississippi gopher frogs lives in a quarter-acre pond overlooking the site of another golf course, planned as part of a 10,000 unit housing development. Under construction now is the new highway that will link the 10,000 houses to the nearest town, 15 miles away. The developer of the 4,600 acre complex has graciously donated 80 acres to the Nature Conservancy attempting to head off criticism and down time for his project. The frogs once roamed from Mississippi to the Florida panhandle; their numbers were severely reduced when their long-leaf pine habitat was logged off and replaced with faster growing loblolly pines. The frogs were considered extinct in the 1970s, but were rediscovered on federal land in the 1980s. Even so, two of the ponds which up until recently held frogs now have highways running through them. [*Times-Picayune*, November 5, 2001, from Ernie Liner] If you're having trouble visualizing the arcane unit of area measure known as an "acre," imagine a box about 205 feet on each side. The area enclosed is approximately one acre. So the pond in question covers about 100 by 100 feet or 10,000 square feet. The developer's gift is less than 1.75% of his project area.

Science Light

• A conference at the University of California– Los Angeles brought together researchers who study the effects of artificial light on plants and animals. Work presented included a paper from researchers along the Atlantic seaboard who have found that newly hatched loggerhead turtles die when lured inland by artificial lights. In a natural environment, the light of the moon would guide them to the safety of the ocean. Other creatures, from salmon to fireflies, have been found to be influenced by artificial light. [*Albuquerque Journal*, February 4, 2002] As a personal observation in the Chicago area, we watched lichens on trees die as the old blue-white street lights were replaced with yellow sodium-vapor lights. So perhaps it is not just light itself which has an impact, but even certain wavelengths of light!

• Meanwhile Fort Lauderdale, Hillsboro Beach and Hollywood, Florida, have failed to comply with Broward County's beach lighting turtle-protection mandate by the beginning of mating season. The Mayor of Hollywood claimed it "would put a burden on our apartments and condos and small businesses . . . most people want the Boardwalk well-lighted. These . . .onerous burdens . . . don't make sense for the community." The towns have had two years to comply with the law. Conservationists point out that all it takes to turtle-shield most lights are aluminum reflectors (foil or sheet metal), replacing up lights with down lights (maybe just twist the fixture) and putting lights which are on all the time on motion sensors to reduce electric use and turtle disorientation. One condo in Pompano Beach proved how easy it was. They put blinds in the recreation room and lowered lights so they couldn't be seen from the beach. Stair lights were replaced with red neon which doesn't disorient turtles and costs less to run in the long term. Architects point out that human safety has not been compromised by their changes. [*South Florida Sun-Sentinel*, March 12, 2002, from Alan Rigerman]

Fashionable Balls

Two advertisements this month featured ball pythons. The first (on the back cover of *Discover*, June 2002) shows a snake wrapped around an expensive bottle of whiskey with the caption, "Tempted?" The other from Tiffany and Company (*Vanity Fair*, June 2002) has a snake wrapped up in a gold necklace. Other fashionista statements in the mailbag include Brittany Spears singing with an albino python at the 2001 MTV Video Music Awards [Tacoma, Washington, *News Tribune*, May 24, 2002]. Contributor Marty Marcus wrote "I bet you don't have snakes like this in Ferndale!"

Shrews to us

A joint Chinese and American scientific team announced their find of an ancient mammal, which lived about 126 million years ago in northeastern China. The nearly complete 3-inch long find is the oldest placental mammal fossil ever found and clearly shows fur. It is not believed to be the ancestor of all placental mammals. In an interesting method of preservation, the animal seems to have been overcome during a volcanic eruption and was preserved virtually intact in a blanket of volcanic ash mixed with lake water. [*The Herald*, April 28, 2002, from Alan Rigerman]

Ooze at fault when they vanish?

In the hills of central France frog poachers are still at work,

even though France outlawed frog fishing in 1977. Their wild frogs, *Rana temporaria*, don't do well in captivity, making wild-catching the only option for French gourmands who won't eat frozen frogs' legs imported from Indonesia. The poachers are shipping crateloads of frog legs to Paris and the Riviera, inspiring the frog police to work even harder to catch illegal frog fishers. Poachers receive about $6 for one dozen legs (50 cents per leg). One poacher said she can earn $300 per night, so she's catching about 600 frogs nightly. [*Wall Street Journal,* April 2, 2002, from Bill Burnett]

Reptile business evicted

In an ongoing tale, an existing business in Sanford, Florida, was denied an operating permit when neighbors started complaining about reptiles on the loose. The business stores and maintains about 10,000 snakes, lizards, chameleons, frogs and spiders. One loose iguana which may or may not have belonged to the business reportedly attacked a cat. The cat owner complained and testified that it was scary and that she didn't think the business belonged in the town. The owner's lawyer pointed out that iguanas eat plants, not cats. [Orlando, Florida *Sun-Sentinel*, March 27, 2002]

Hello, hello?

Researchers in Valencia, Spain, are watching every move a two-headed snake makes—by video. The 9-month old, 10-inch long ladder snake is a nonvenomous native colubrid. Mature ladder snakes can grow up to 5-feet long. Researchers want to know if one head is dominant, whether the digestion is separate, and if the animal could be mated with a normal member of the species. [April 4, 2002: *South Bend Tribune*, from Garrett Kazmierski and Bucyrus, Ohio, *Telegraph-Forum* from Bill Burnett]

Goodbye, goodbye?

The U.S. Department of Agriculture Wildlife Services agency plans an all-out assault on Puerto Rican frogs (*Eleutherodactylus coqui* and *E. planirostris*), which have invaded all four major Hawaiian islands. The four-year plan will cost taxpayers about $10.7 million over four years. Only $200,000 has actually been funded for the program, which will start on October 1. The plan calls for their agents to work with other state and federal agencies to spray caffeine to give the frogs heart attacks. Some people feel the frog is too well established to eliminate. Others are worried the plan might require an environmental impact statement which would just give the frogs more time to make more frogs. Meanwhile, three tons of caffeine is sitting in a Big Island warehouse because there are environmental restrictions on the release of that chemical into the environment. Another possibility is coating the frogs in hydrated lime which essentially "dries" the frogs to death. [*Honolulu Advertiser*, June 7, 2002, from Ms. G. E. Chow]

Thanks to everyone who contributed this month and to Mrs. P. L. Beltz, Eloise Beltz-Decker, Claus R. Sutor, Toronto Zoo, Garrett Kazmierski, Ms. G. E. Chow, Alan W. Rigerman, Ray Boldt, William L. Burnett, Marty Marcus, Larry Reed and Wes von Papineau for their continuing contributions to this column. You can contribute too. Send whole pages from newspapers and magazines with your name on each piece to: Ellin Beltz, P.O. Box 934, Ferndale, CA 95536.

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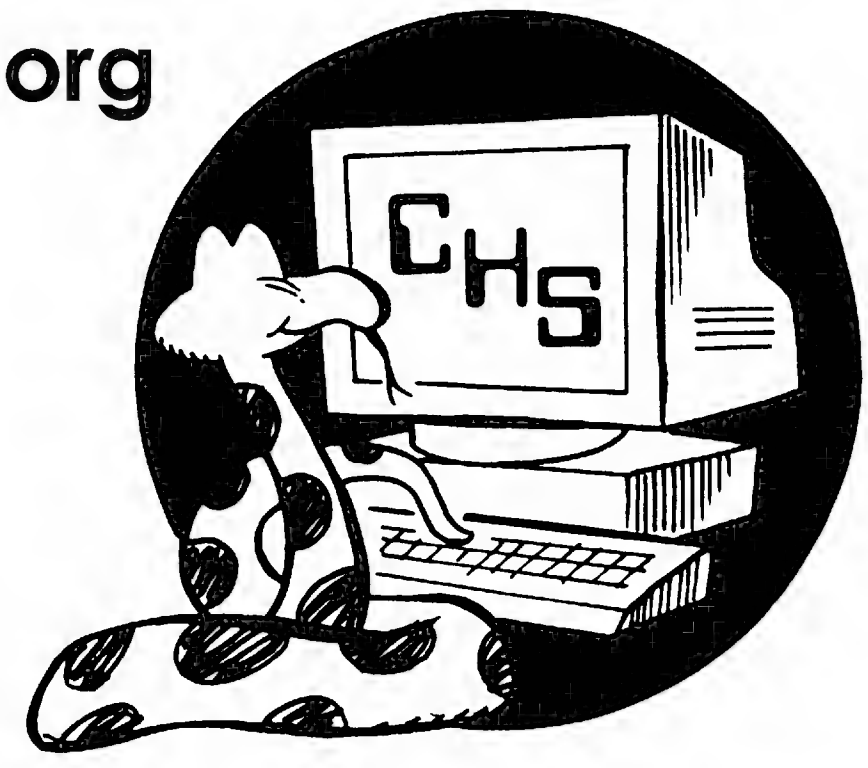

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Herpetology 2002

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

WHIPTAIL SYSTEMATICS

T. W. Reeder et al. [2002, American Museum Novitates 3365] infer phylogenetic relationships of the whiptail lizards of the genus *Cnemidophorus* based on a combined analysis of mitochondrial DNA, morphology and allozymes. Within the Teiini, *Teius* and *Dicrodon* are the most basal lineages, and these two taxa form a graded series leading to a cnemidophorine clade containing *Ameiva*, *Cnemidophorus*, and *Kentropyx*. *Cnemidophorus* monophyly is not supported, with members of the Neotropical *"C." lemniscatus* species group (except *"C." longicaudus*) being more closely related to species in other Neotropical cnemidophorine taxa (*Ameiva* and *Kentropyx*). *Ameiva* is also paraphyletic.

Because of *Cnemidophorus* paraphyly, nomenclatural changes are recommended. *Aspidoscelis* Fitzinger, 1843, is resurrected for the North American "*Cnemidophorus*" clade containing the *deppii*, *sexlineatus*, and *tigris* species groups (and the unisexual taxa associated with them). Lizards of the genus *Aspidoscelis* differ from all other cnemidophorine lizards by the combined attributes of absence of basal tongue sheath, posterior portion of tongue clearly forked, smooth ventral scutes, eight rows of ventral scutes at midbody, absence of anal spurs in males, mesoptychial scales abruptly enlarged over scales of gular fold (more anterior mesoptychials becoming smaller), three parietal scales, and three or four supraocular scales on each side.

A review of current knowledge of teioid unisexuals and their hybrid origins is provided. Also, a reevaluation of teiine chromosomal evolution is presented from a phylogenetic perspective. These reviews elucidate the paradox that the capability of instantly producing parthenogenetic clones through one generation of hybridization has existed for approximately 200 million years, yet the extant unisexual taxa are of very recent origins. Consequently, these lineages must be ephemeral compared to those of bisexual taxa.

BULLFROG TADPOLES USE BUILT-IN COMPASS

M. J. Freake et al. [2002, Copeia (2):466-471] note that the use of a magnetic compass plays a significant role in the daily and seasonal movements of numerous organisms; however among amphibians, magnetic compass orientation has been convincingly demonstrated only in eastern red-spotted newts, *Notophthalmus viridescens*, with some indirect evidence coming from several species of bufonid toads. In this study, larval bullfrogs, *Rana catesbeiana*, were trained in outdoor tanks with two different Y-axis (shore/deep water) directions and then tested in an indoor arena in one of four symmetrical alignments of an earth-strength magnetic field. The tadpoles oriented bimodally along the correct magnetic direction of the Y-axis experienced during training, demonstrating that this anuran species is able to learn and orient along the Y-axis by sensing the geomagnetic field.

ORGANOCHLORINES AND AMPHIBIANS

K. A. Glennemeier and L. J. Begnoche [2002, J. Herpetology 36(2):233-244] note that organochlorine compounds (OCs) persist in the environment and can impair development and reproduction in birds, fish, mammals, and other wildlife. However, despite concerns about amphibian population declines and developmental deformities, little is known about the impact of OCs or other pollutants on amphibian populations. The authors surveyed five polychlorinated biphenyl (PCB)-contaminated wetlands anuran densities relative to four uncontaminated sites. Despite finding that sediments contained PCB concentrations toxic to some organisms, they found no significant correlation between anuran density or species richness and severity of PCB contamination. In the laboratory, tadpoles and eggs of *Rana pipiens* and *R. utricularia* were negatively affected by PCB concentrations comparable to field levels. Ranid adults and larvae collected from contaminated field sites contained tissue total PCB levels much lower than that of the sediments. Therefore, the apparent lack of population-level impact of PCBs in the field may be explained by limited contaminant accumulation, rather than low physiological sensitivity to chronic PCB exposure.

LAKE TITICACA FROGS

E. Benavides et al. [2002, Herpetologica 58(1):31-55] report that the frog genus *Telmatobius* represents the radiation of 49 recognized species confined to high elevation aquatic habitats in the Andes Mountains of South America. The genus has not been shown to be monophyletic, and issues of species boundaries and relationships are poorly resolved. This study sampled the four recognized subspecies of *T. albiventris* from Lake Titicaca, and other species (*T. crawfordi*, *T. culeus*, and *T. marmoratus*) from within the lake and the greater Titicaca Basin. Allozyme characters and multivariate assessments of morphometric variation were used to test species boundaries in this complex. Results suggest that four evolutionary species can be recognized: *T. culeus* (which includes *T. albiventris* and *T. crawfordi*), *T. marmoratus*, *T. affinis halli*, and *T.* sp. nov. Unique combinations of allozyme and morphometric variables can distinguish these, but only the sample of *T. culeus* is large enough, relative to the proportion of fixed characters, to evaluate distinctness of diagnostic characters with a high degree of statistical confidence ($\alpha = 0.05$). Phylogenetic analysis of 10 polymorphic allozyme loci revealed weak support for monophyly of Lake Titicaca *Telmatobius*. All taxa from Lake Titicaca examined (under the name *T. culeus*) are interpreted as a single evolutionary species, but differences in body sizes and microhabitats provide circumstantial evidence for adaptation along ecological resource gradients. The possibility of ecological speciation among different morphs within the lake is considered, along with evidence needed to test this hypothesis.

Unofficial Minutes of the CHS Board Meeting, June 14, 2002

Jack Schoenfelder called the meeting to order at 7:31 P.M. Board members Dan Bavirsha, Greg Brim, Mike Dloogatch and Steve Sullivan were absent.

Officers' Reports

Recording Secretary: Emily Forcade distributed and read the minutes of the May 17, 2002, board meeting. Corrections were made and the minutes were accepted.

Vice-president: Lori King said that Mike Dreslik would be the speaker at the general meeting in July. We will ask Rob Carmichael to bring an eastern massasauga for this meeting. This will help us kick off our Massasauga Conservation Project. Steve Sullivan is working feverishly on the exhibit. Jim Nesci and Bubba will attend the opening of Steve Irwin's feature movie as honored guests.

Standing Committees

ReptileFest: Darin Croft said he would probably be the chair for the 2003 Fest. He will inform the University of Illinois that we would like to schedule space from them for the first weekend in April.

Grants: Mike Redmer suggested that the board think about the amount of money it wants to allocate for grants. He thinks $2500 or 5% of our budget will give us about five good projects. He will be proposing an amount in the next few months.

Shows: Jenny Vollman said that a veterinarian in Wilmette is sponsoring a pet health day. She would like someone from the CHS to be there for four hours to answer questions. A display and membership table would be possible.

There is going to be another Chicagoland Family Pet Show sponsored by Tower Show Productions at Navy Pier in November. They are charging $400 per booth for nonprofit organizations. This would give us a lot of exposure and could be used for fundraising. Jenny Vollman made a motion to allocate $400 for this show. The motion was tabled for further research and discussion about what would be included and how much space would be needed.

Rich Crowley said that Argonne National Laboratory is having its annual picnic on July 13, 10 A.M. – 3 P.M. They are providing us with a tent with electricity to set up whatever display we want, including a photo booth. Rich is involved and invites others to participate. The board was unanimously enthusiastic about participating in this event.

Raffle: Ron Humbert said we are running low on interesting supplies. Steve has sent letters. Jack will talk to Bob Herman about his interest in being permanently involved.

Library: Books are now available for the general meetings.

Chicago Wilderness: Tom Anton reported that the last Great Herp Search was attended by eight adults and four children. They got to see many animals of different varieties including fox, garter, green and water snakes.

Ad Hoc Committees

Massasauga Conservation: Lori said that Mike Redmer wrote an exceptional editorial on this topic for the June *Bulletin*. Steve Sullivan will also have an article that issue about the CHS field trip. Bob Ashley is working with his art director on the T-shirt design. Half of the shirts will say "Illinois" on the sleeve. The IHS meeting in July is being hosted by the St. Louis Zoo. She's pretty sure that they will be open to selling the shirts since they are collaborators with the Carlyle Lake team. If not, Bob Ashley has offered us table space.

At the general meeting on May 29, 2002, Mike Dloogatch moved to allocate $1,000 for the production of massasauga T-shirts. Jenny Vollman seconded. Following a discussion, the motion was passed by a unanimous vote.

Trips: Bob Herman talked about the travel arrangements for the September 28 Detroit Zoo trip.

Animal of the Month: For the July meeting, the herp will be any herp under one year old. After the vote, the winner will have an opportunity to say a few words about the animal. Instead of ribbons, raffle tickets will be awarded as prizes.

Speakers Bureau: There will be a meeting of this committee on July 19, before the board meeting.

Nominating Committee: Jack is looking for someone to act as chair for this committee.

Old Business

Insurance: Jack suggested that with the insurance increase, we look for other insurers to expand our liability for venomous animals and to lower our cost. Rich Crowley said he could make some inquiries.

Museum of Science and Industry / SuperCroc: Dan and Bob Bavirsha will be involved in maintaining a live exhibit during the SuperCroc exhibit next spring.

Ideas and Suggestions

Linda Malawy asked if we could have something that advertises ReptileFest at each of our shows.

Round Table

Jack announced his new E-mail address, jschoenf@ivytech.edu.

Emily Forcade said that she has been sending the minutes to all board members who have E-mail with a request for corrections or additions. This was done in response to a request made at a board meeting last year. Frequently, board members are not sending her any changes but are then making corrections at the board meeting. When the corrections come in at the meeting, the official minutes are corrected but the unofficial minutes are published in the *Bulletin* without the corrections.

The meeting was adjourned at 9:32 P.M.

Respectfully submitted by Recording Secretary Emily Forcade

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, $.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. P.O. Box 85, Alpine TX 79831. Call us **toll-free** at (800) 720-0076 or visit our website: http://www.themousefactory.com.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at $20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: herp books. Cogger, Harold—*Reptiles and Amphibians of Australia*, 1986 (4th ed.), 688 pp., 880 photos (230 in color), range maps, keys, DJ, hardbound, $40; Brimley, C. J.—*Reptiles of North Carolina*, 1944 reprint (1941-43), 35 pp., flexible cardboard covers, $20; Gowanloch and Brown—*Poisonous Snakes, Plants and Black Widow Spider of Louisiana*, 1943, 133 pp., b&w photos and drawings, inscribed by author, softbound, $25; Daniel, J. C.—*The Book of Indian Reptiles*, 1983, 141 pp. plus 41 colored plates and 13 b&w plates, contains much natural history information, DJ, hardbound, $35; McPhee, David—*Some Common Snakes and Lizards of Australia*, 1963 (1959), 125 pp., many b&w photos, small pocket book-size, spine slightly scuffed, softbound, $28; Menzies, J. I.—*Handbook of Common New Guinea Frogs*, 1976, 75 pp., 12 color plates, plastic boards, $27; Mehrtens, John—*Chelids of Australia*, 1967, reprinted from Vol. l, No. 6, International Turtle and Tortoise Journal, 8 pp., 18 b&w photos, softbound, $6; Wykes, Alan—*Snake Man: The Story of C. J. P. Ionides*, 1960, 221 pp., b&w photos, edges of pages browned with age, the adventures of Ionides collecting herps in Africa, DJ, hardbound, $25. All books in excellent condition except as noted. Orders $25 and over sent postpaid; $2.50 postage for under $25. William R. Turner, 6014 Blue Ridge Drive, Apt. A; Highlands Ranch, CO 80130, (720) 344-6197, E-mail: turnerbmrk@prodigy.net.

For sale: books—collectors' items. ***A History of British Reptiles*** by Thomas Bell, **1839**, (M.DCCC.XXXIX), 142 pp., hardbound, b&w illustrations, no marks, no writing in book, absolutely excellent condition, $1,000; *Amphibians from Nyasaland and Tete* by Arthur Loveridge, 1953, softbound, 81 pp. + map and several b&w plates, *Reptiles from Nyasaland and Tete* by Arthur Loveridge, 1953, softbound 179 pp. + map and several b&w plates—both volumes like new, never used, sold as a set only, $175; *FitzSimons' Snakes of Southern Africa* by Donald G. Broadley, 1983 revised edition of 1962 original, hardbound/DJ, 376 pp., original color plates, like new, never used, $150. All items postpaid. Call Karl Switak at (707) 538-7412 or fax (707) 538-0554 to make sure items are still available.

For sale: Captive bred juvenile *Uroplatus henkeli*, $100 each. Luke, (815) 754-7721.

For sale: Rat snakes. Cunningham's *Elaphe*—Specializing in rare *Elaphe*. Working with *E. dione*, *E. ridleyi*, *E. climacophora*, corns, and many more. Rick, (309) 353-9661. E-mail: rick1@ntslink.net. Web site: http://www.cunninghamselaphe.com.

For sale: Green anacondas, c.b. 9/01, beautiful, healthy and DOCILE, $175 each; yellow anacondas, c.b. 6/01, flawless little screamers, $95 each; Amazon tree boas, c.b. 7/01, solid yellow, $125, orange and green, $150, both are female; 11' female tiger retic, stunning specimen, tame and a great feeder, $550 or best offer; jungle carpet pythons from nice black and yellow parents, $100 each or $175/pair. Mark Petros, Strictly Serpents, (847) 836-9426, E-mail: MLPserpent@hotmail.com.

For sale: Tarantulas. One male and two female Indian ornamentals, *Poecilotheria regalis*, 18 months old, 6–7" long, ready to breed now, $ 100 each; three Salem ornamentals, *P. formosa*, 3" long, $35 each; one slate red ornamental, *P. rufilata*, rare, 2" long, $50. All are healthy, c.b. and in excellent condition. Mike Wood, (574) 269-3441, or E-mail: 2bears@myvine.com.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: <http://www.bluechameleon.org>, E-mail: bill@bluechameleon.org, or call (941) 728-2390.

Herp tours: Experience the Amazon! Road-ride in Costa Rica! See and photograph herps where they live, have fun doing it, make good friends and contacts, and best of all . . . **relax!** From wildlife tours to adventure travel, **GreenTracks, Inc.** offers the best trips led by internationally acclaimed herpers and naturalists. See our website <http://www.greentracks.com> or call (800) 9-MONKEY. E-mail: greentracks@frontier.net.

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

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INTERNSHIPS AVAILABLE IN FIELD HERPETOLOGY AND CONSERVATION

Ashton Biodiversity Research & Preservation Institute has two internships available in the fall and one open immediately. The internships are at a biological field station 12 miles west of Gainesville, Florida, and are 3 or 6 months in length.

Tortoise Assurance Colony Research and Management: This intern will be conducting behavioral studies with various species of rare tortoises in natural habitat enclosures, and will also work with various aspects of gopher tortoise behavior including movements and foraging. A student with an interest in field botany would be well suited for one of the key projects. This person will serve as a paid field tech on a long-term drift fence study in the Ocala National Forest.

Gopher Tortoise Conservation Initiative: ABRPI has a conservation program that involves providing educational programs for professionals, training for interpretative naturalists and biologists and training volunteers throughout the state. Several field courses and a workshop and course on producing "home rule" protected species regulations will be conducted this fall. This is a fine opportunity for a student interested in working with a conservation nonprofit as a career to get some real experience at all levels. A stipend is available for this position.

Applicants should be undergraduate or graduate students or entering a graduate program. Or, employed as a biologist managing tortoise collections or doing research or managing tortoises in the wild. Computer skills are mandatory and minimally include, MS Word and Excel, and web page management. Nonsmokers (real) only. It is preferred that applicants have their own vehicles (except foreign applicants). Tortoise management includes working with dogs so experience with dogs is good. GTCI applicant should have good people skills and experience in teaching in informal situations is good. Contact: Ray Ashton, ABRPI, 14260 W. Newberry Road #331, Newberry, FL 32669, (352) 495-7449 tel, (352) 495-7433 fax. E-mail: Tortfarm2@aol.com. Web site: http://www.geocities.com/ashtonbiodiversity

NEW OKLAHOMA HERPETOLOGICAL SOCIETY FORMS

Years ago, the Oklahoma Herpetological Society (OHS) gathered and discussed amphibian and reptile taxonomy, distribution and conservation in Oklahoma. The Society was gradually disbanded a few years back, but recent interest has led to a series of new OHS organizational meetings. The new OHS's mission is "To promote the conservation of amphibians and reptiles in Oklahoma, and the preservation of all wildlife; to educate the public of the importance of this natural resource; to present opportunities and programs for the continued study of amphibians and reptiles." Future attractions of the group will include research presentations at OHS meetings and field trips around the state. The most recent OHS organizational meeting held on April 13 resulted in the adoption of the new OHS's official constitution and bylaws. Officer election was scheduled tentatively for the next meeting on June 8. Anyone seeking more information should contact Julian Hilliard at (405) 521-4663, or via E-mail at jhilliard@odwc.statc.ok.us.

We're goin' to the zoo, zoo, zoo

All aboard for a fun-filled day trip to the Detroit Zoo. Visit *Amphibiville,* home of the National Amphibian Conservation Center. Enjoy a behind-the-scenes tour of the zoo's pre-eminent *Reptile House*. Afterwards, explore the zoo on your own and take in *The Arctic Ring of Life Exhibit* and the *Butterfly/Hummingbird Garden.* Learn more about the zoo at www.detroitzoo.org. The CHS has arranged luxurious, washroom-equipped bus transportation, with movies-in-transit. Anyone who attended the International Herpetological Symposium in Detroit last summer can tell you what a special and hospitable zoo this is! So reserve the date: **Saturday, September 28**, from 6 A.M. until 10 P.M. Seats are limited and will be available on a first-come-first-serve basis . . . so don't delay. Contact Bob Herman for details at (773) 667-4095 or by E-mail at bobherman@ameritech.net. Round-trip transportation with zoo admission is just $35 per person! Children are welcome.

You can come too, too, too!

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, July 31, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. Our featured speaker at this meeting will be **Michael Dreslik**, a graduate student at the University of Illinois at Champaign-Urbana. Mike is the lead field researcher on a large-scale study of the eastern massasauga at Carlyle Lake in south-central Illinois. He will fill us in on what they have already learned about this state-endangered rattlesnake, as well as what they hope to learn in the future. On sale at this meeting will be a brand new T-shirt created by the CHS to help fund the Carlyle project. The shirt features a beautiful picture of a massasauga, courtesy of Mike Redmer, plus Linda Malawy's inspired slogan, "400 Ribs but Not Enough Support."

We are expecting a crew from the Wild Chicago television program to be filming at the August 28 meeting.

The regular monthly meetings of the Chicago Herpetological Society now take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the August 16 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot behind the building.

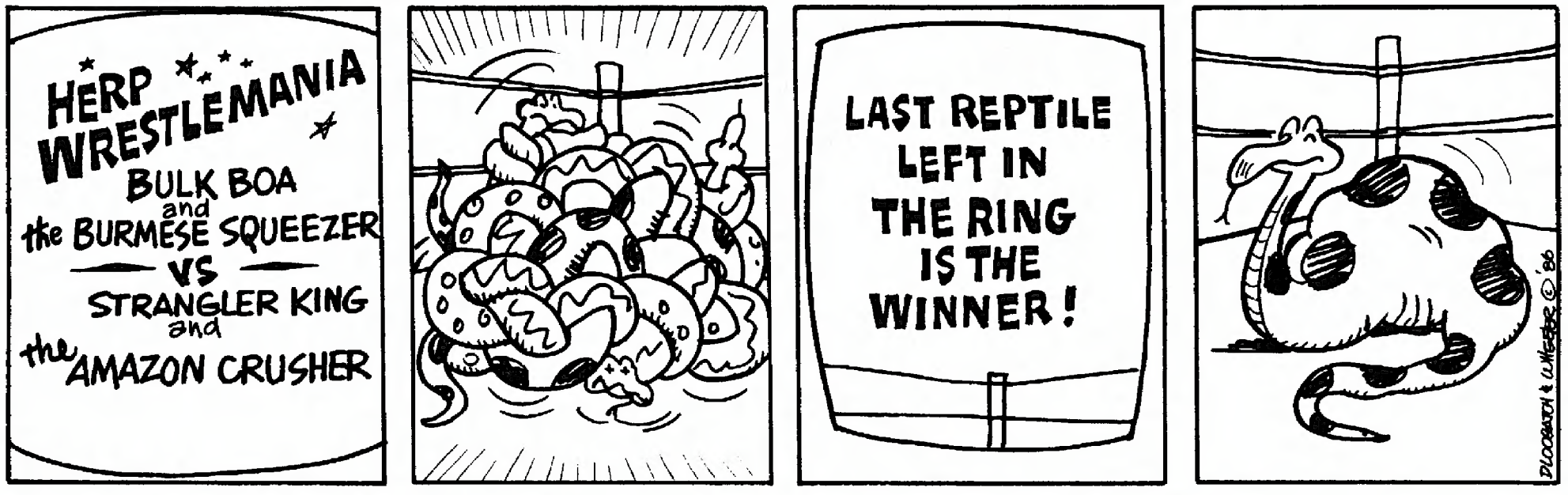
The Chicago Turtle Club

The next meeting of the Chicago Turtle Club will be on Sunday, July 28, 1:00 – 3:30 P.M., at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. The program will be "Turtle Tips and Turtle Eggs." Meetings are informal; questions, children and animals are welcome; parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC web site: http://www.geocities.com/~chicagoturtle.

HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the "Herp of the Month" to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners. July's featured animals will be **any reptile or amphibian under 1 year of age**. And for August the category will be **any herp you have kept for 10 years or more**.

THE ADVENTURES OF SPOT



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